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TECHNICAL MEMORANDUM

FINAL WORK PLAN
OPERABLE UNIT NO 7

PRESENT LANDFILL (IHSS 114) AND INACTIVE HAZARDOUS WASTE STORAGE AREA (IHSS 203)

VOLUME IV APPENDICES L P

SEPTEMBER 2, 1994

Technical Memorandum

Final Work Plan
Operable Unit No. 7 — Present Landfill (IHSS 114) and
Inactive Hazardous Waste Storage Area (IHSS 203)

Volume IV — Appendices L–P

September 2, 1994

U S. Department of Energy
Rocky Flats Site
Golden, Colorado

Appendix L

Histograms

KEY TO HISTOGRAM PLOTS

Units of measurement

ug/Kg	micrograms per kilogram
mg/Kg	milligrams per kilogram
ug/L	micrograms per liter
pCi/L	picocuries per liter
pH	pH unit, measurement of the hydrogen ion activity, = -log10[H+]

Titles

OU7	Operable Unit No 7
SW	surface water
CaCO3	calcium carbonate
KaKl-w	undifferentiated weathered Arapahoe and Laramie Formation
Qrf	Rocky Flats Alluvium
Qc	Colluvium

X-Axis

BKGD	Site background sample population concentrations
SW097	OU 7 site sample population concentrations from surface water station SW097
SW098	OU 7 site sample population concentrations from surface water station SW098
SW099	OU 7 site sample population concentrations from surface water station SW099
SW100	OU 7 site sample population concentrations from surface water station SW100
SITE	OU 7 site sample population concentrations (sediments and surface soils)
IHSS 114	Sample population concentrations from Individual Hazardous Substance Site 114
IHSS 203	Sample population concentrations from Individual Hazardous Substance Site 203
ELP	Sample population concentrations from the East Landfill Pond
Upgradient	Upgradient of OU 7 sample population concentrations
Downgradient	Downgradient of OU 7 sample population concentrations
Landfill	Samples from landfill population concentrations

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IHSS 114	Sample population concentrations from Individual Hazardous Substance Site 114
IHSS 203	Sample population concentrations from Individual Hazardous Substance Site 203
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Upgradient	Upgradient of OU 7 sample population concentrations
Downgradient	Downgradient of OU 7 sample population concentrations
Landfill	Samples from landfill population concentrations

Surface Soils

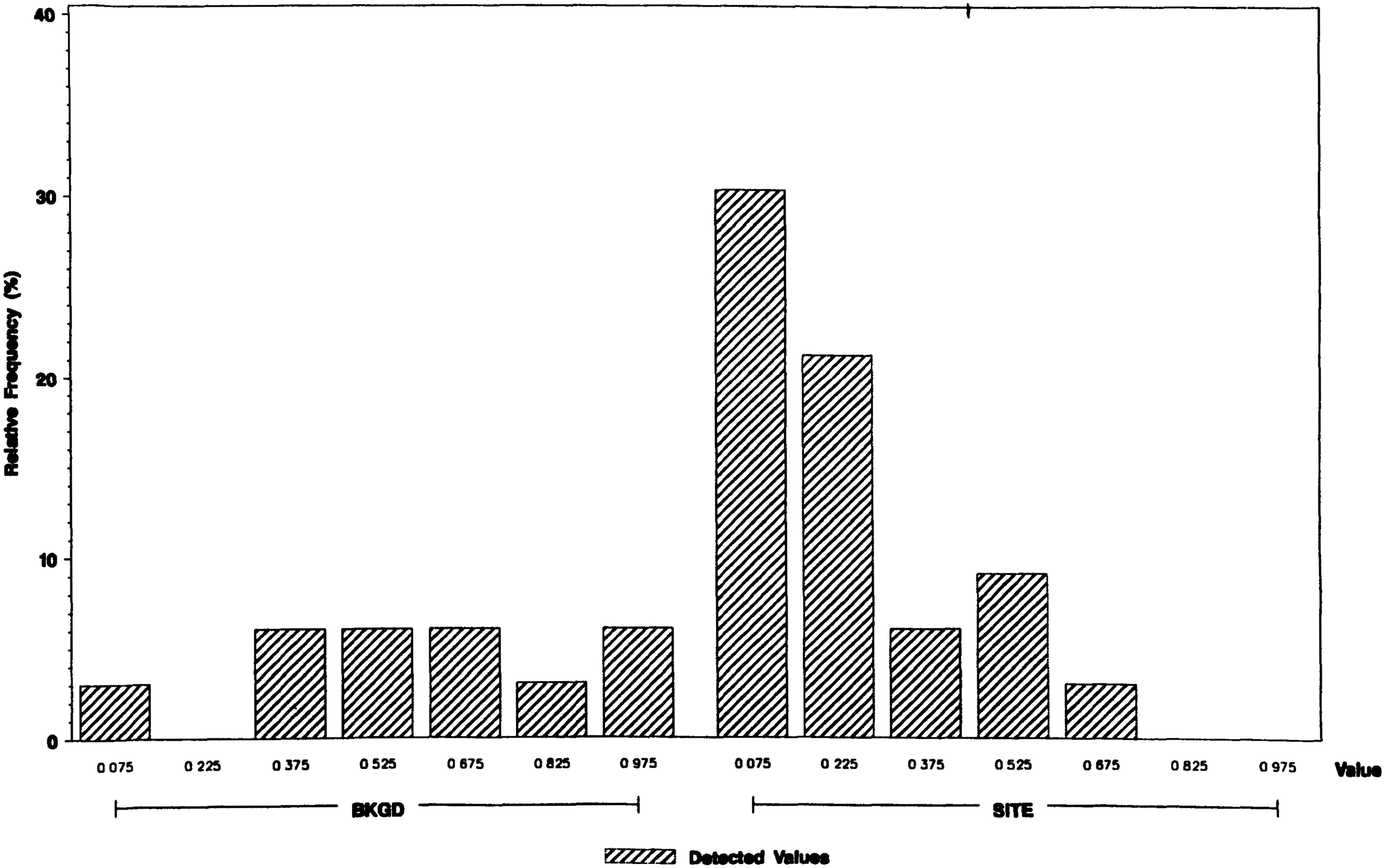
Background vs. IHSS 203

(0 to 2 inches)

Background vs IHSS 203 Frequency Histogram

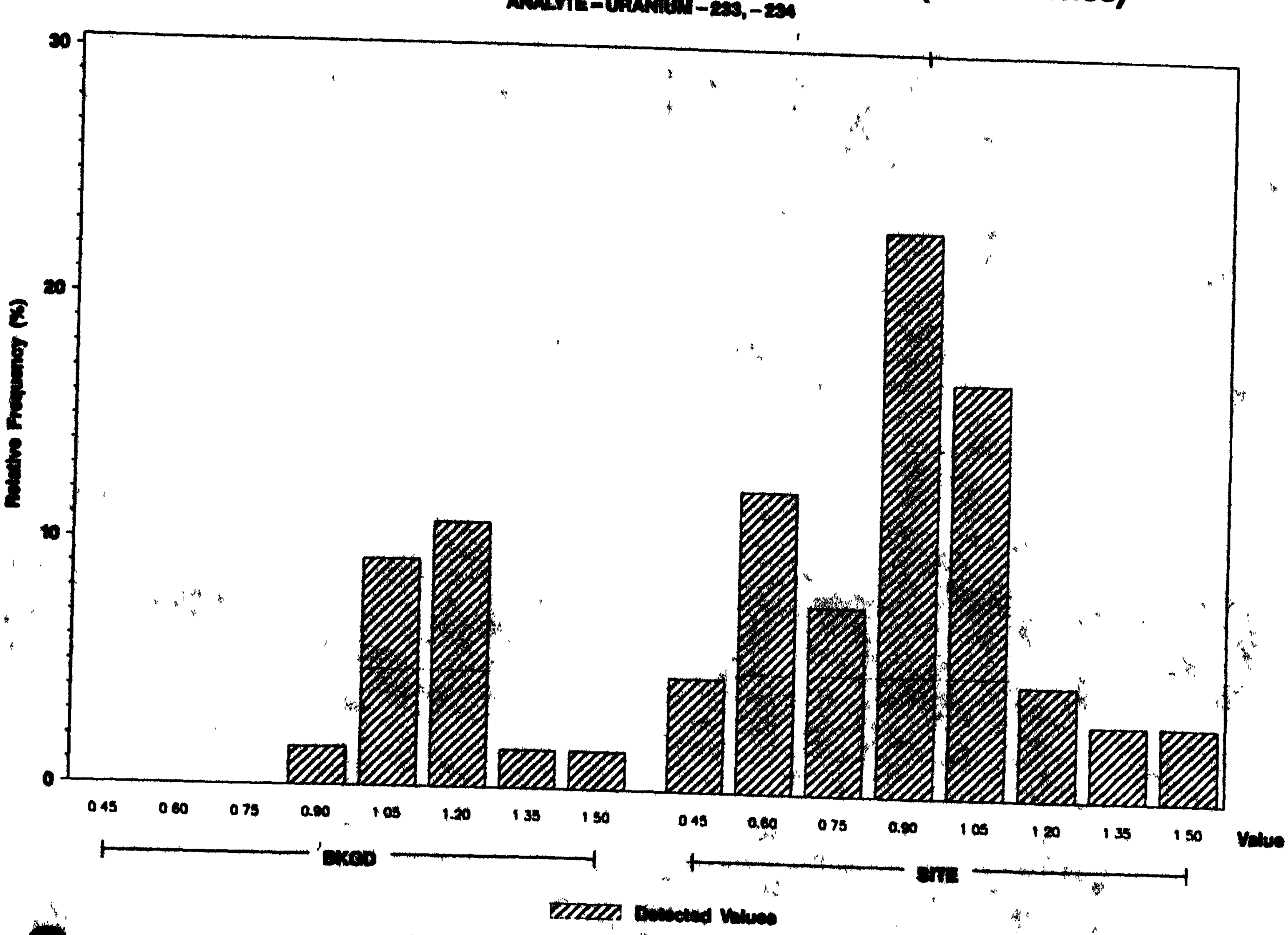
STRONTIUM – 89,90 (pCi/g) in Surface Soils (0 – 2 Inches)

ANALYTE = STRONTIUM – 89,90



Background vs IHSS 203 Frequency Histogram

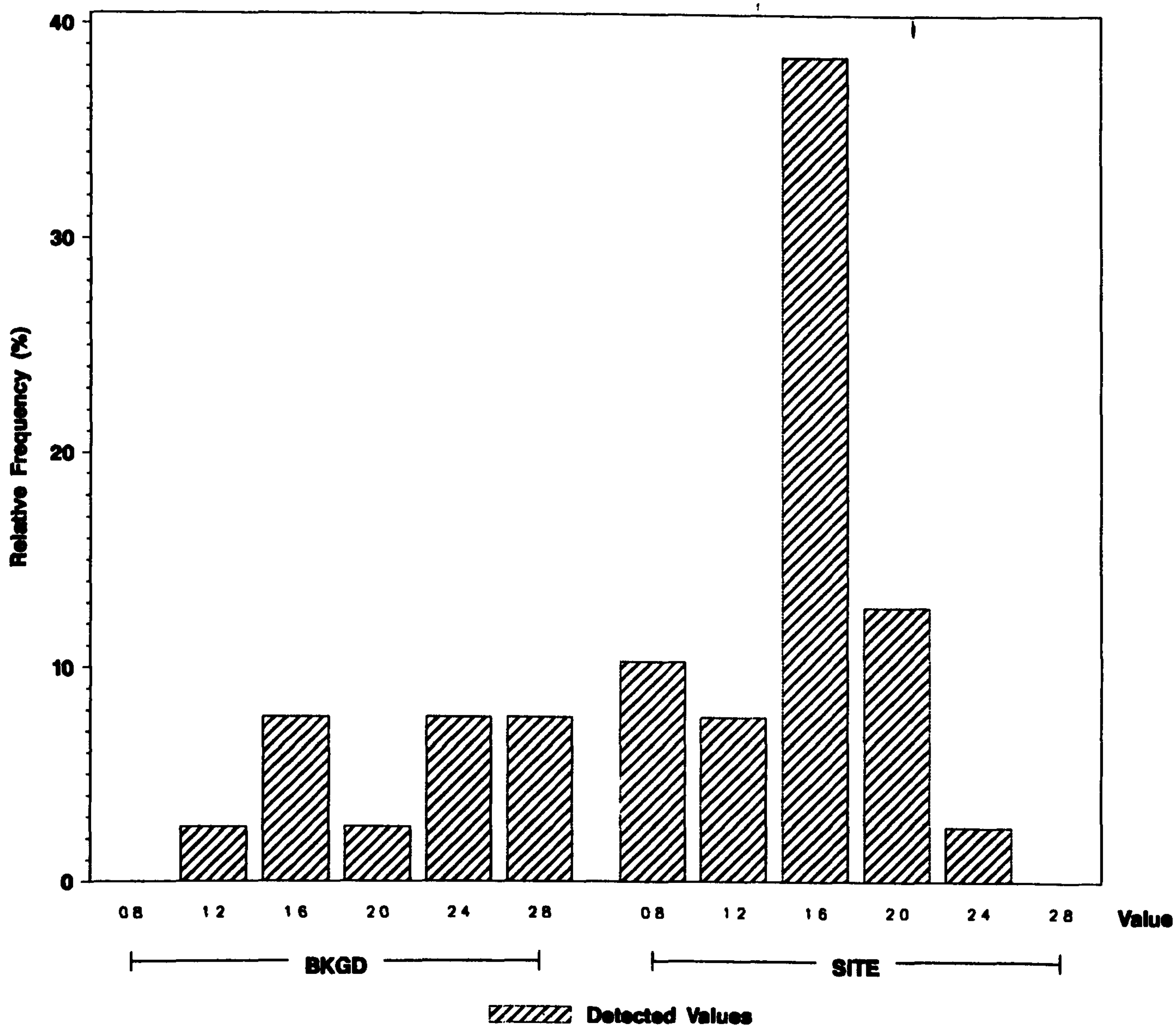
URANIUM−233,−234 (pCi/g) In Surface Soils (0−2 Inches)



Background vs IHSS 203 Frequency Histogram

RADIUM – 228 (pCi/g) In Surface Soils (0 – 2 Inches)

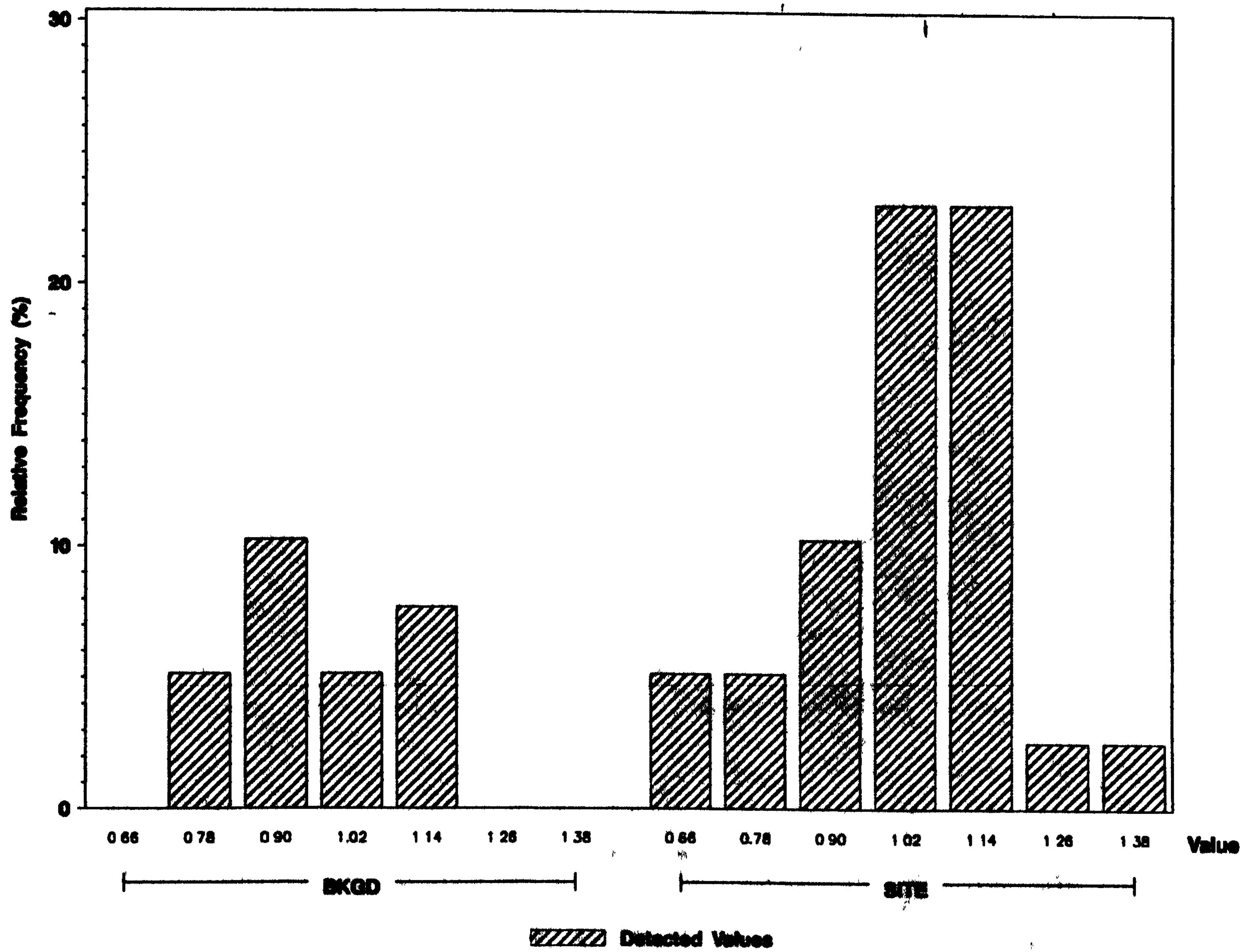
ANALYTE = RADIUM – 228



Background vs IHSS 203 Frequency Histogram

RADIUM – 226 (pCi/g) In Surface Soils (0 – 2 Inches)

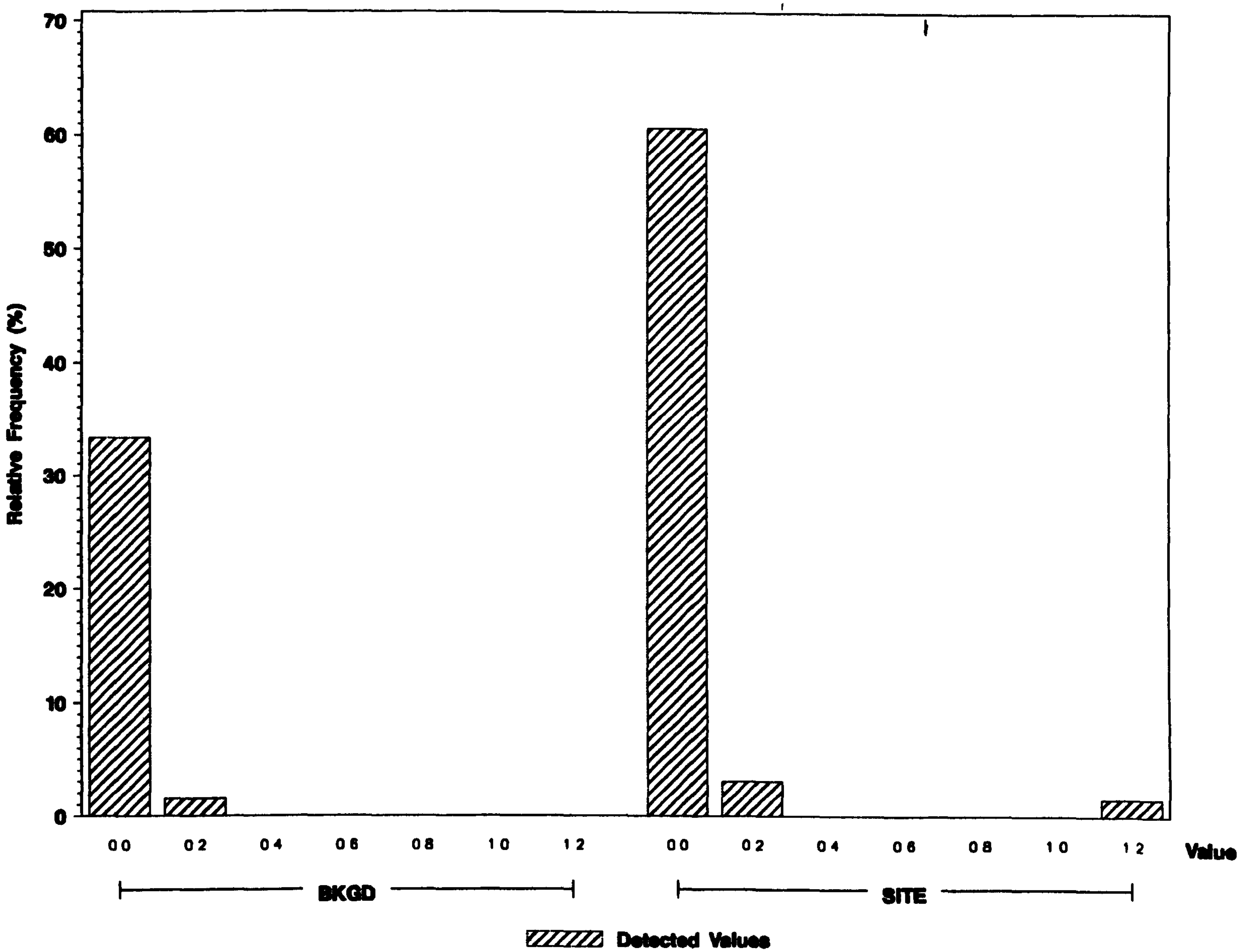
ANALYTE = RADIUM – 226



Background vs IHSS 203 Frequency Histogram

PLUTONIUM – 239/240 (pCi/g) in Surface Soils (0 – 2 Inches)

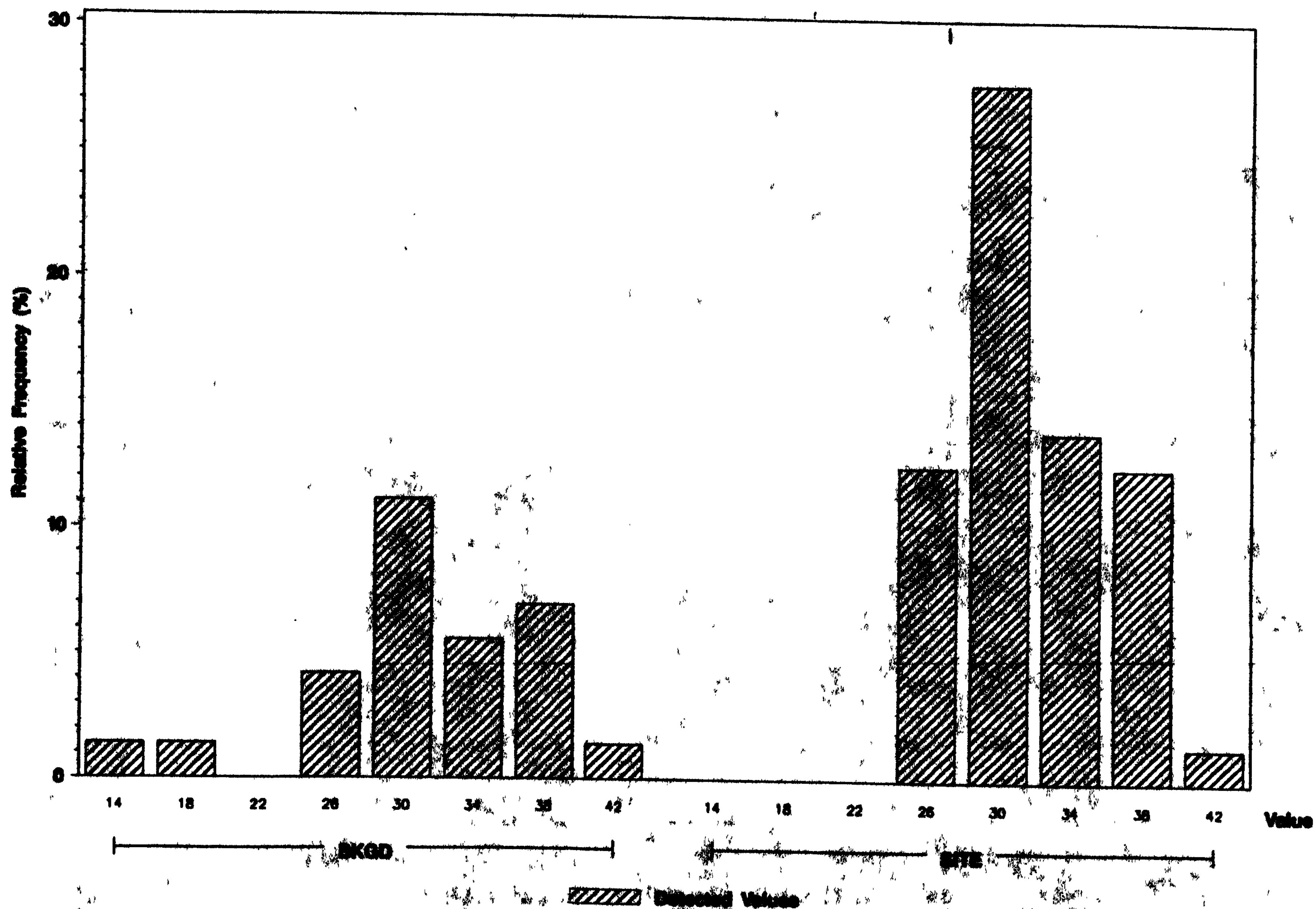
ANALYTE = PLUTONIUM – 239/240



Background vs IHSS 203 Frequency Histogram

GROSS BETA (pCi/g) In Surface Soils (0-2 Inches)

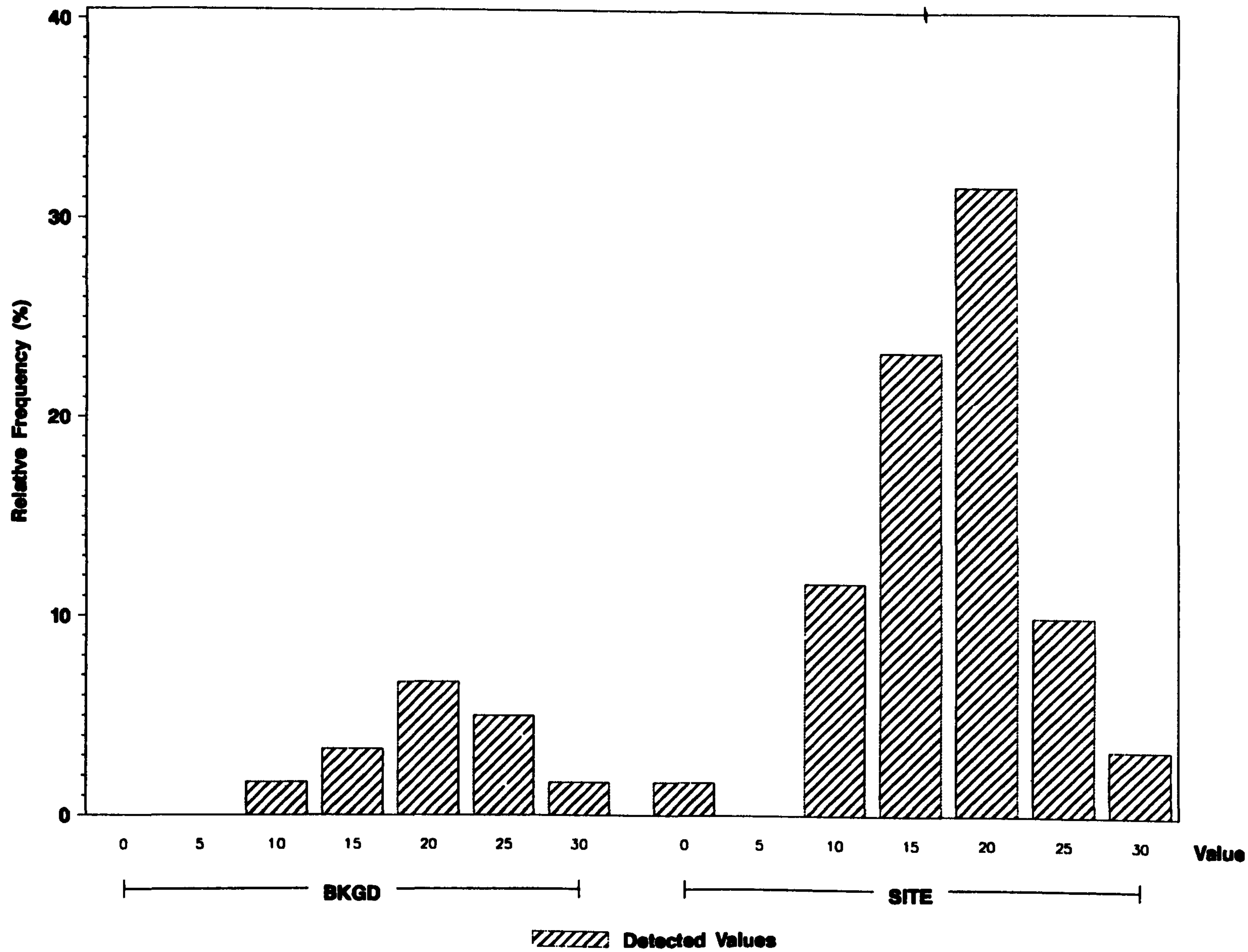
ANALYTE=GROSS BETA



Background vs IHSS 203 Frequency Histogram

GROSS ALPHA (pCi/g) in Surface Soils (0–2 Inches)

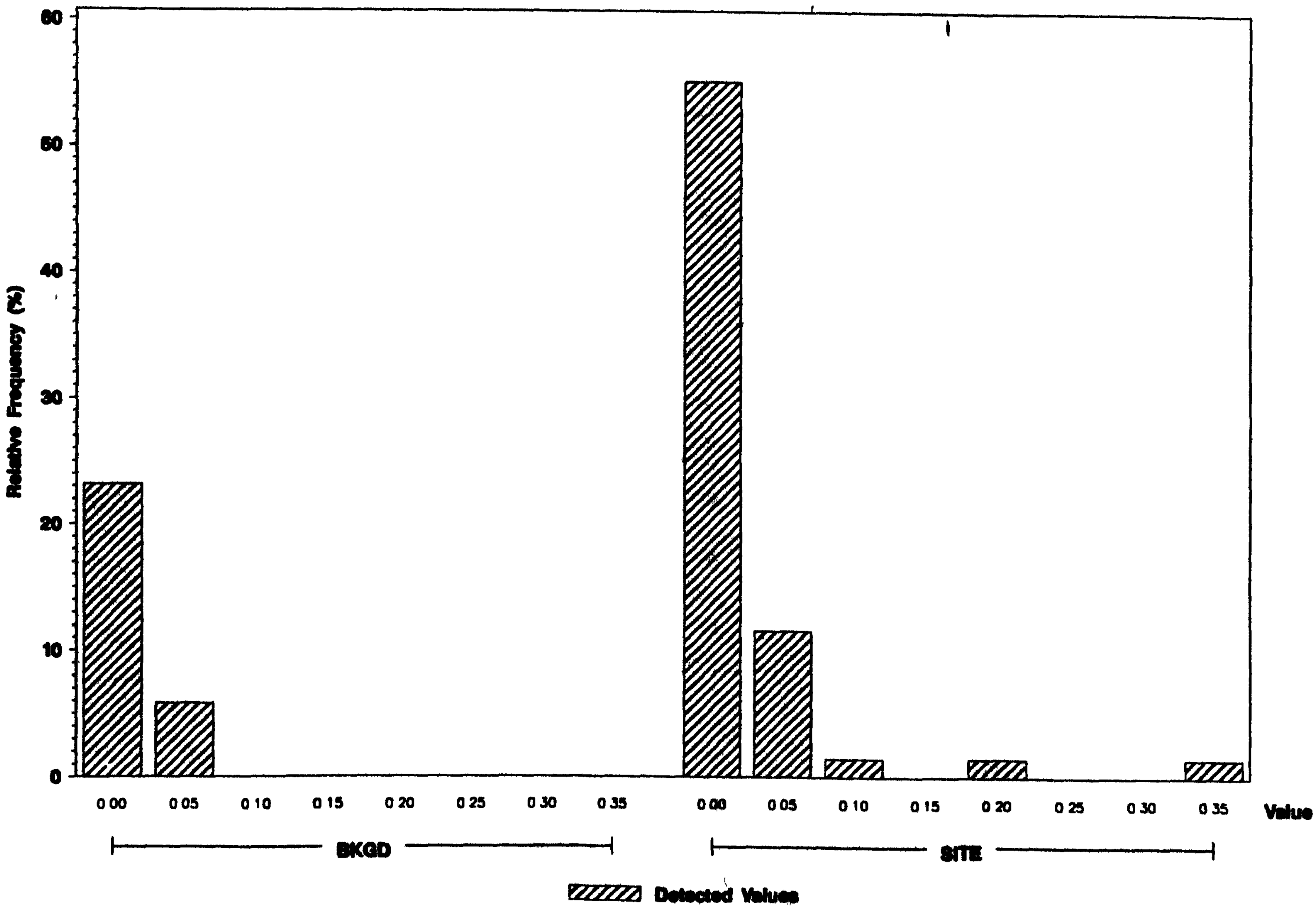
ANALYTE=GROSS ALPHA



Background vs IHSS 203 Frequency Histogram

AMERICIUM-241 (pCi/g) In Surface Soils (0-2 Inches)

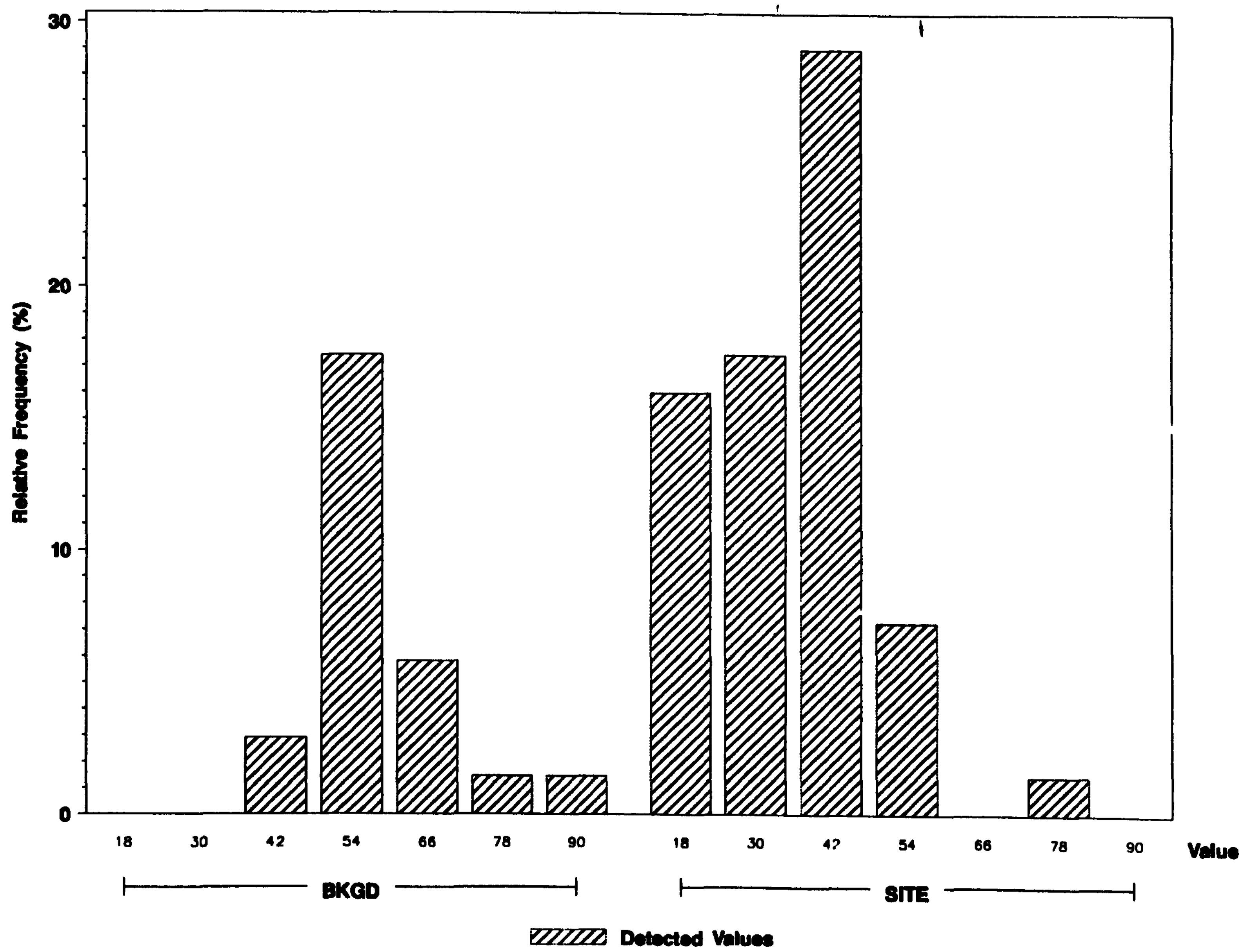
ANALYTE=AMERICIUM-241



Background vs IHSS 203 Frequency Histogram

ZINC (mg/Kg) in Surface Soils (0-2 Inches)

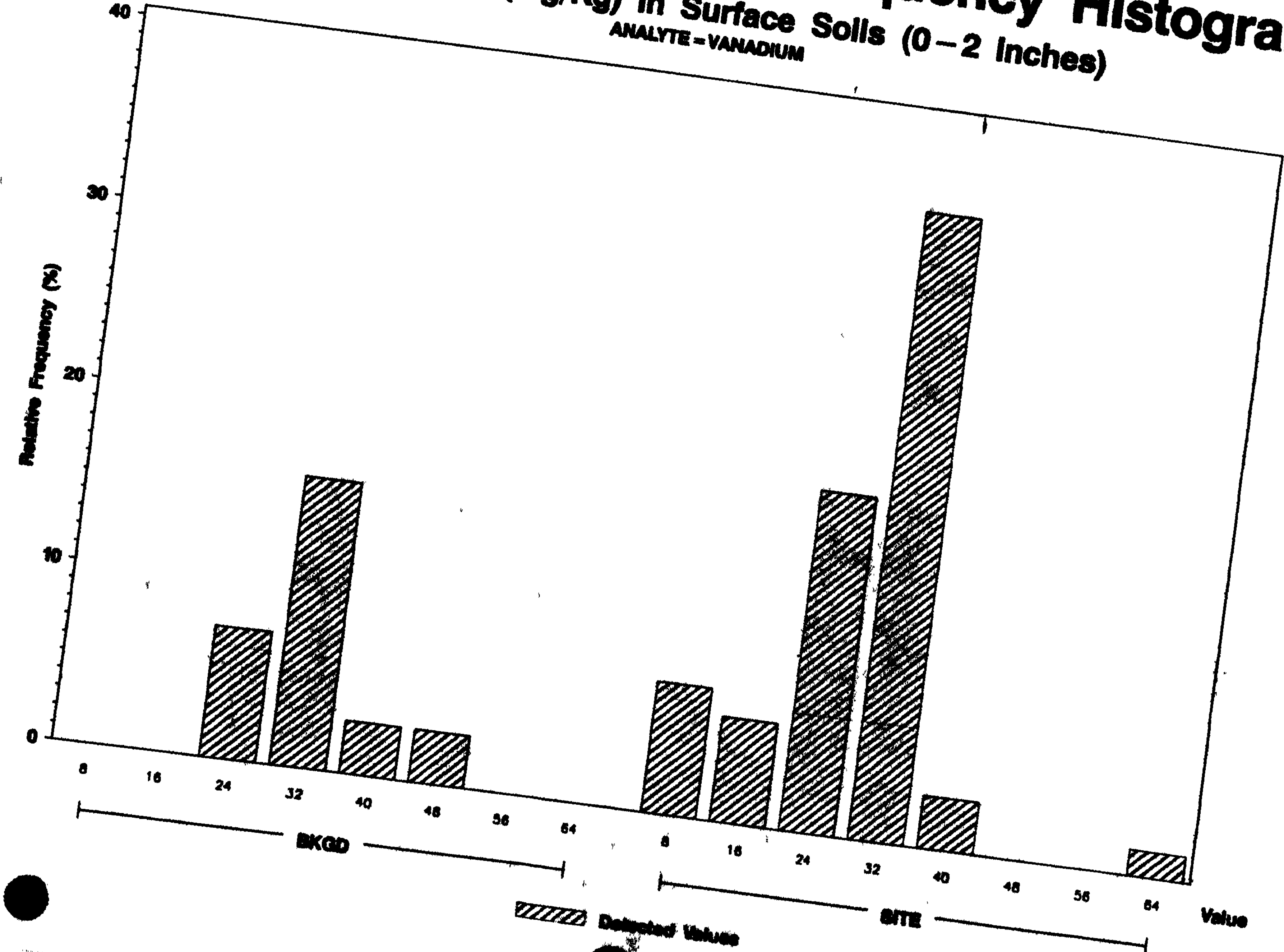
ANALYTE=ZINC



Background vs IHSS 203 Frequency Histogram

VANADIUM (mg/Kg) In Surface Soils (0–2 Inches)

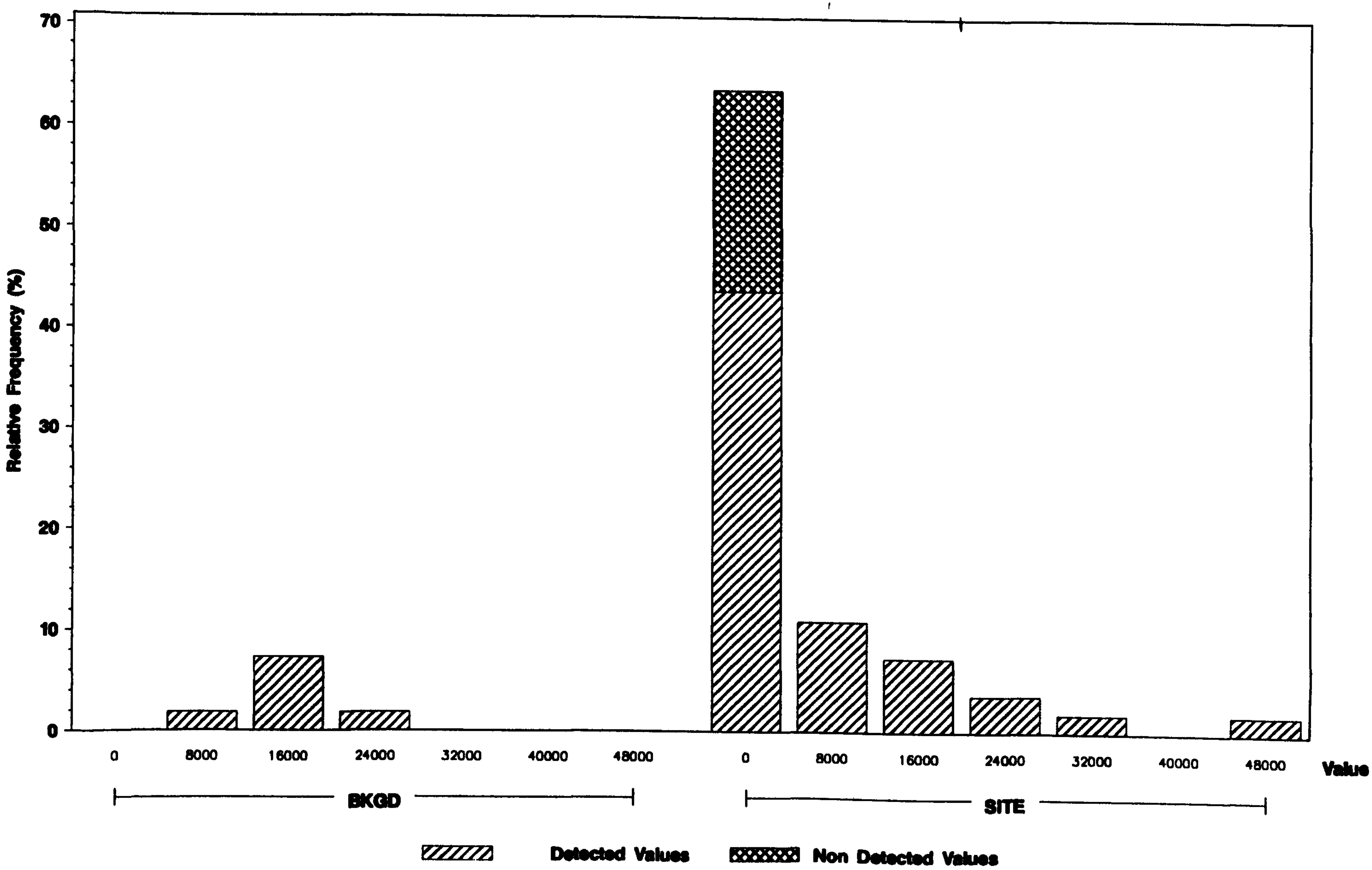
ANALYTE=VANADIUM



Background vs IHSS 203 Frequency Histogram

TOTAL ORGANIC CARBON (mg/Kg) In Surface Soils (0 – 2 Inches)

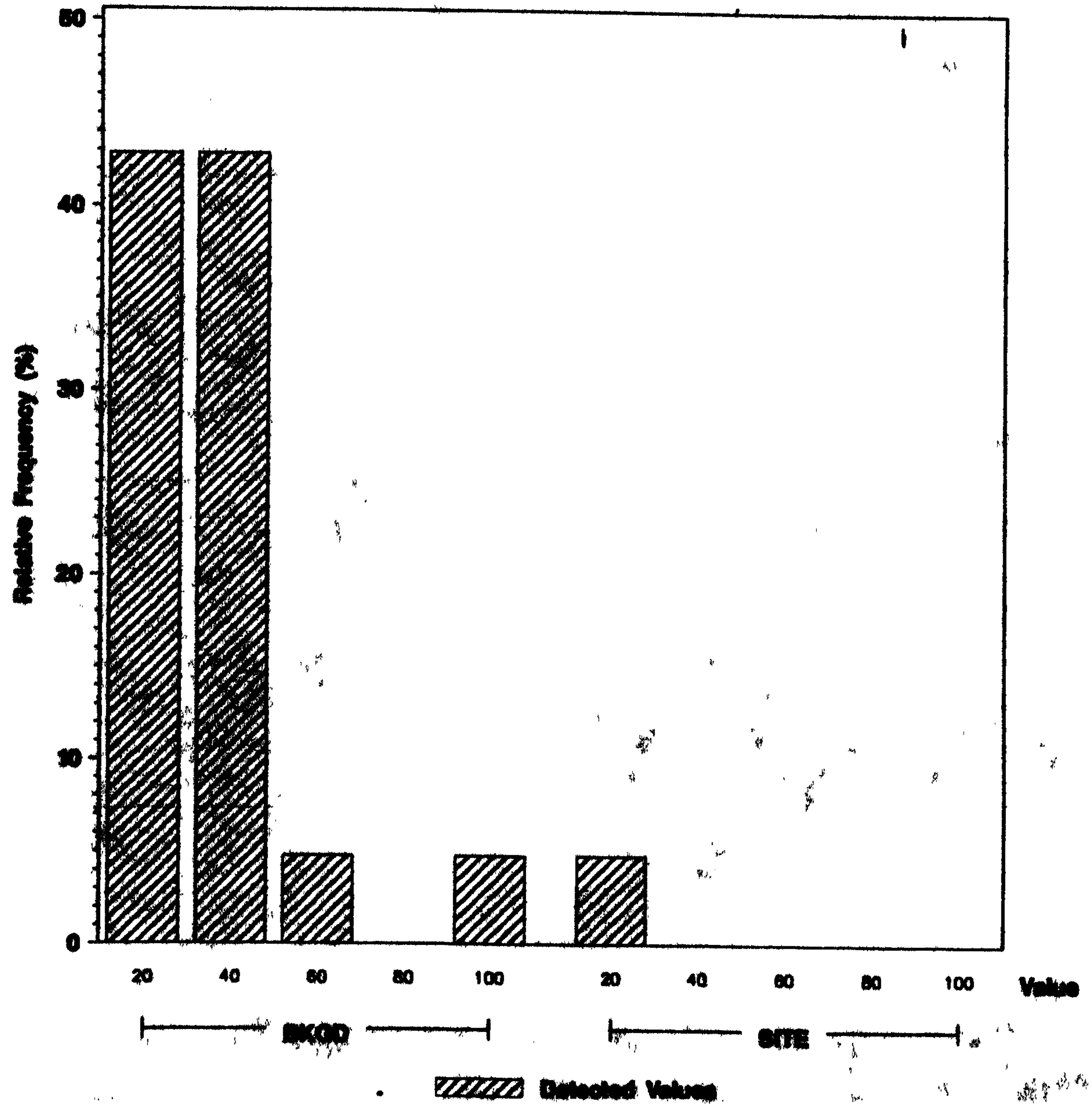
ANALYTE = TOTAL ORGANIC CARBON



Background vs IHSS 203 Frequency Histogram

STRONTIUM (mg/Kg) In Surface Soils (0 – 2 Inches)

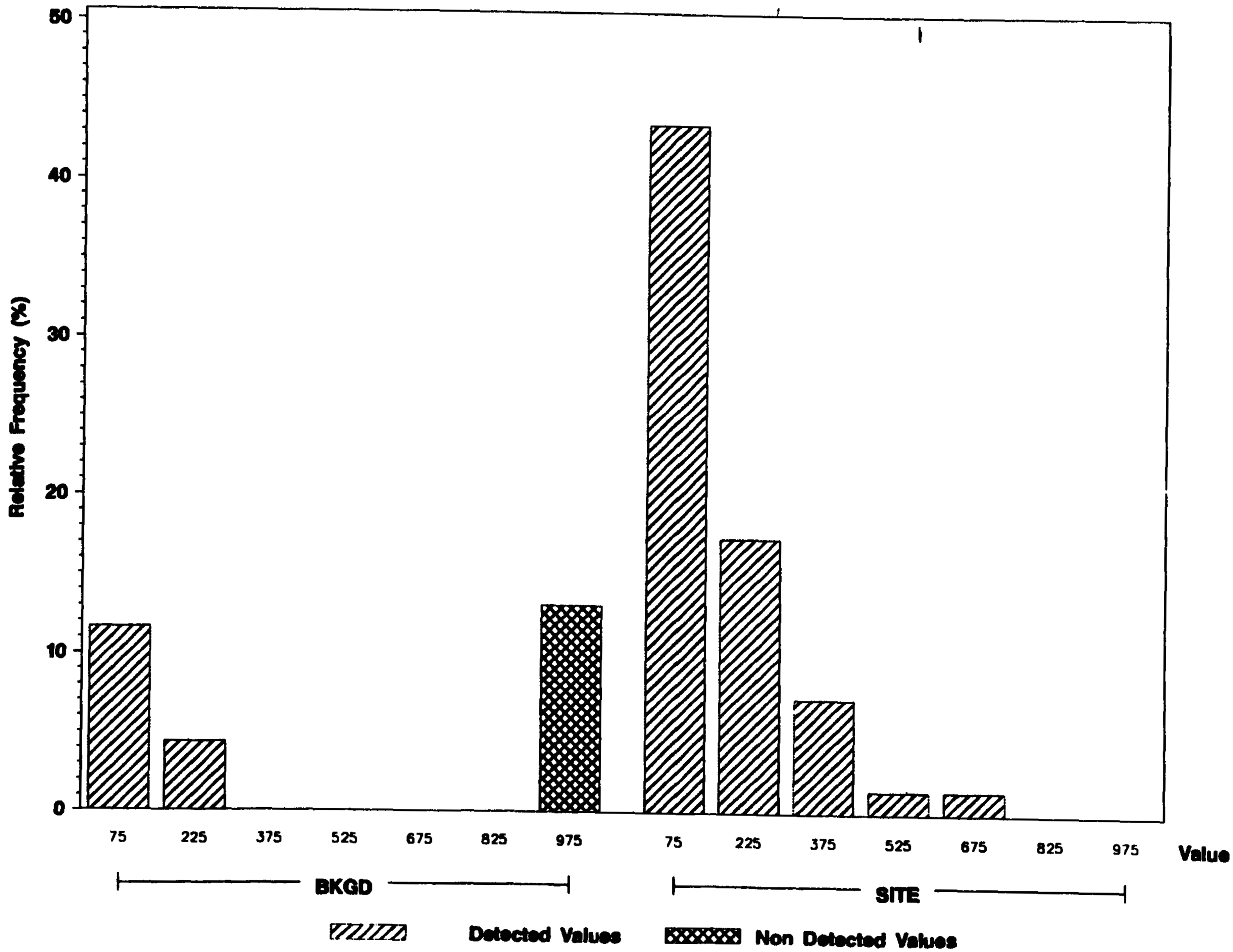
ANALYTE = STRONTIUM



Background vs IHSS 203 Frequency Histogram

SODIUM (mg/Kg) in Surface Soils (0 – 2 Inches)

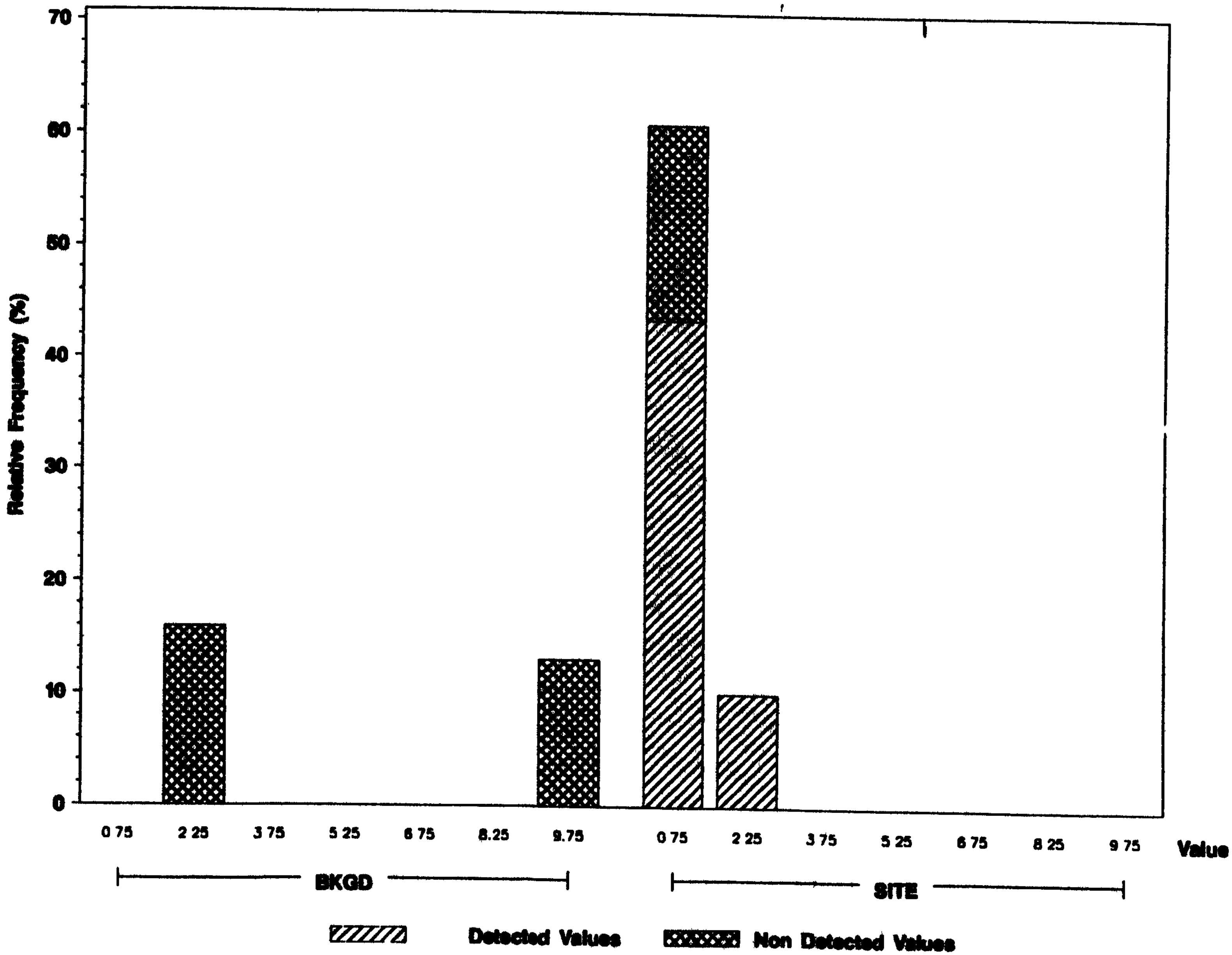
ANALYTE=SODIUM



Background vs IHSS 203 Frequency Histogram

SILVER (mg/Kg) In Surface Soils (0 – 2 Inches)

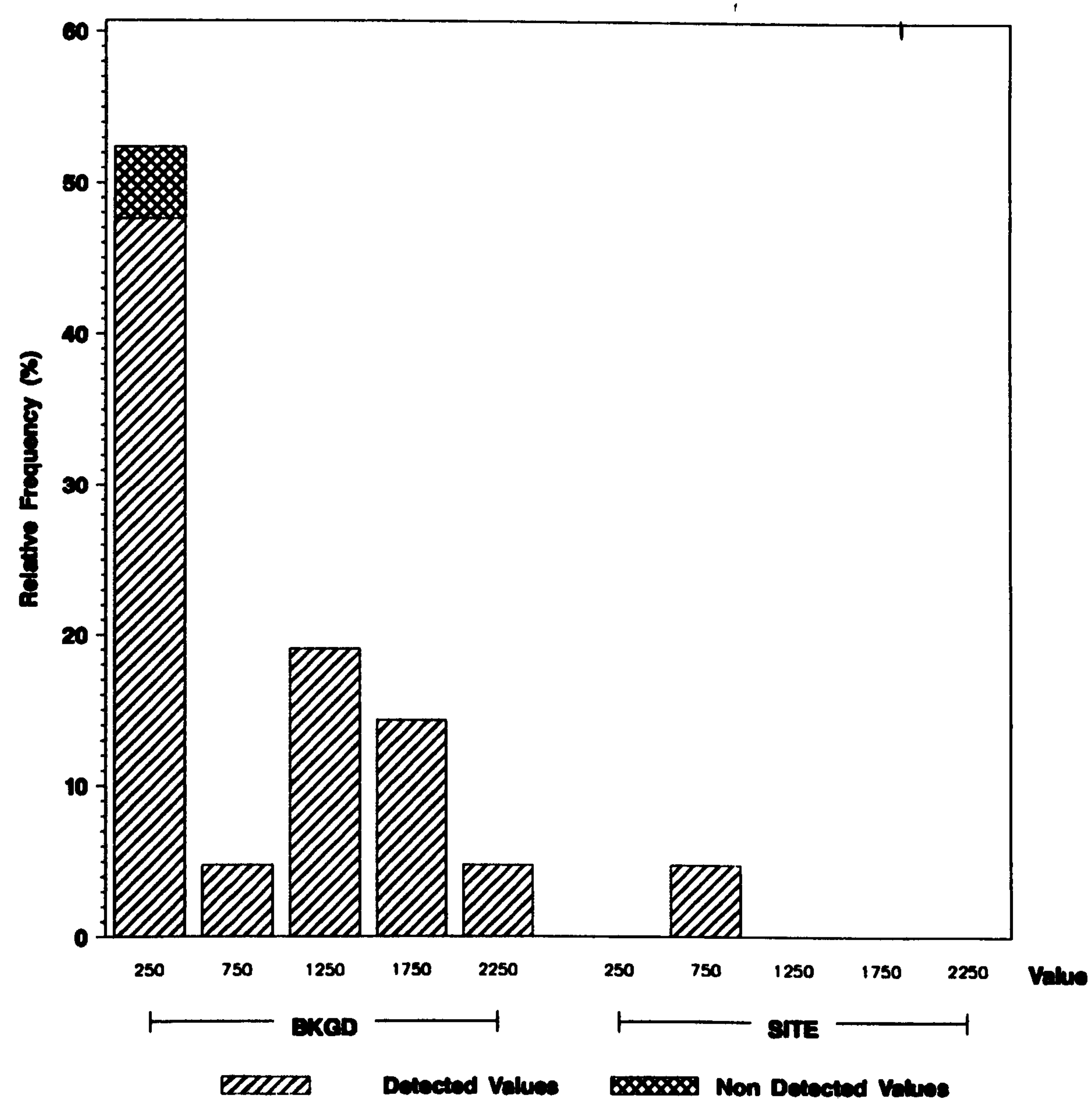
ANALYTE = SILVER



Background vs IHSS 203 Frequency Histogram

SILICON (mg/Kg) in Surface Soils (0 – 2 inches)

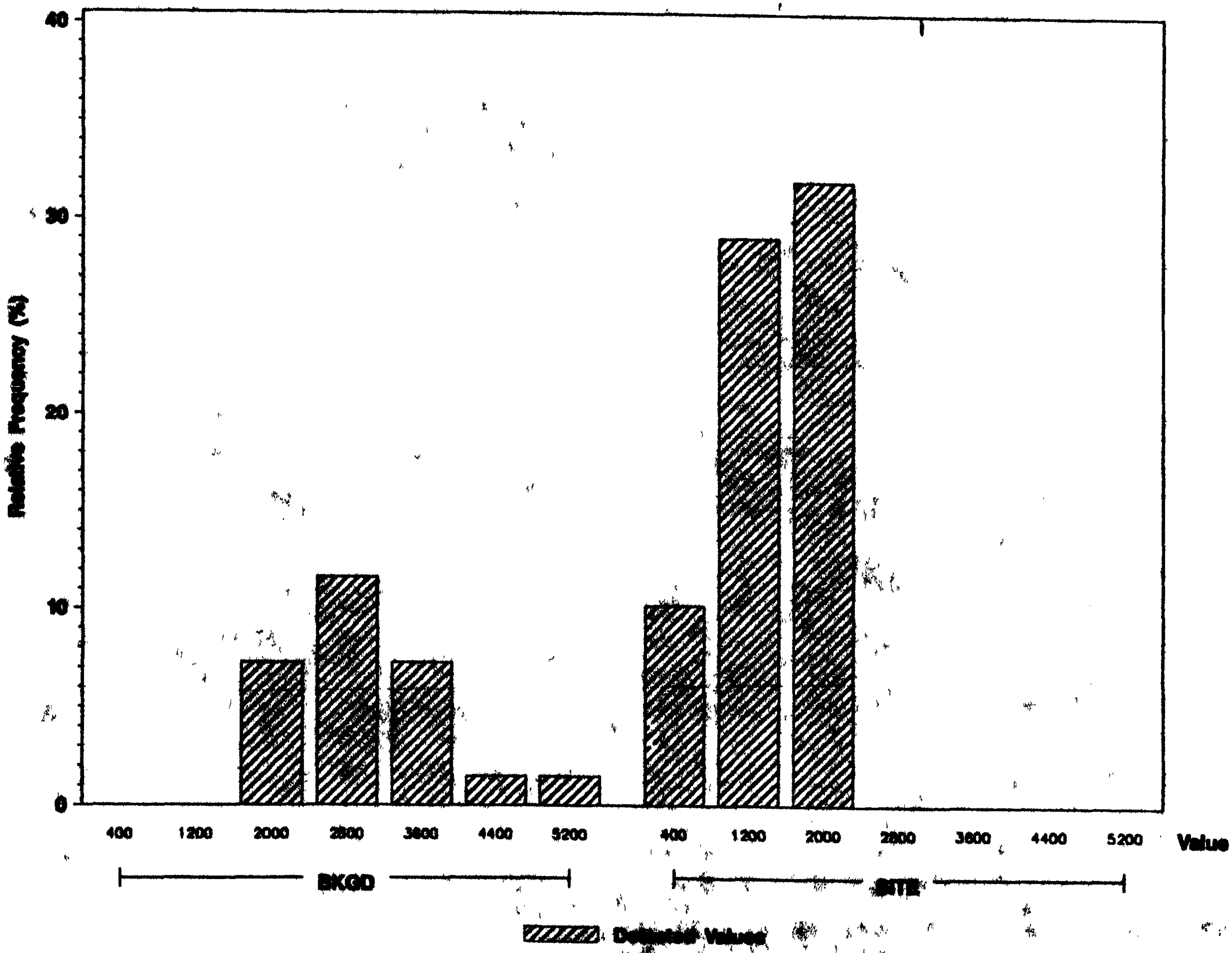
ANALYTE = SILICON



Background vs IHSS 203 Frequency Histogram

POTASSIUM (mg/Kg) In Surface Soils (0 – 2 Inches)

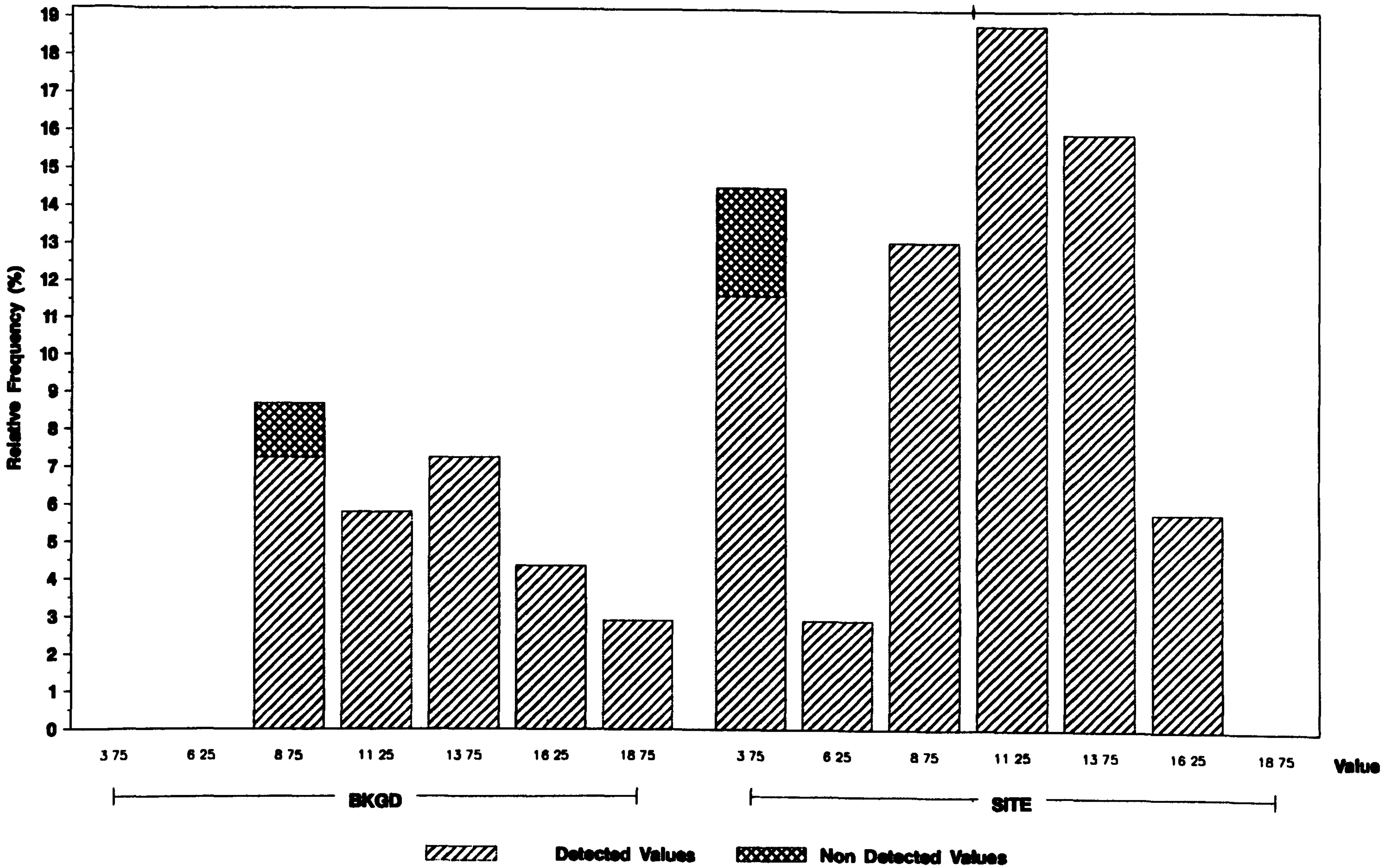
ANALYTE = POTASSIUM



Background vs IHSS 203 Frequency Histogram

NICKEL (mg/Kg) In Surface Soils (0 – 2 Inches)

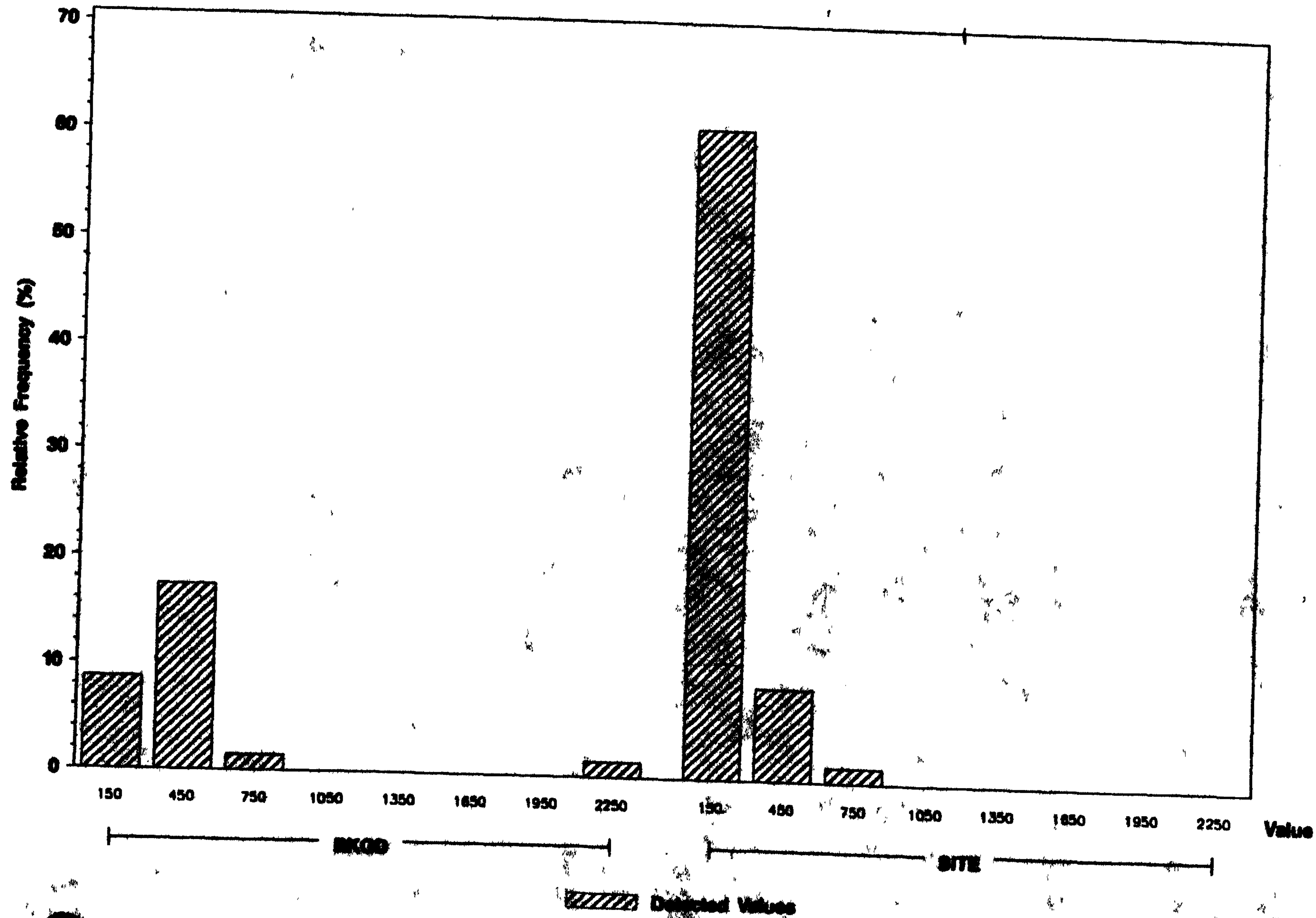
ANALYTE = NICKEL



Background vs IHSS 203 Frequency Histogram

MANGANESE (mg/Kg) In Surface Soils (0 – 2 Inches)

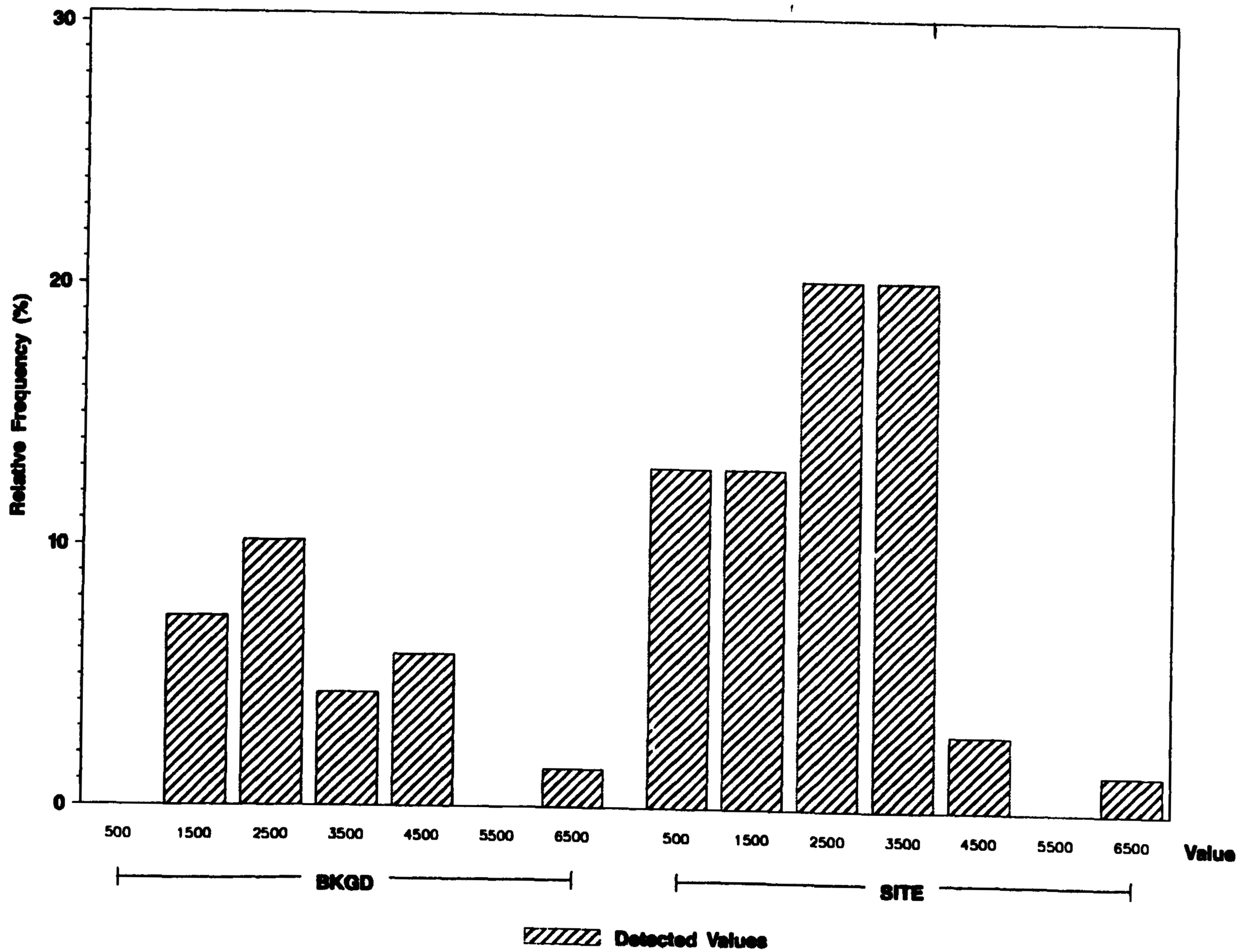
ANALYTE=MANGANESE



Background vs IHSS 203 Frequency Histogram

MAGNESIUM (mg/Kg) in Surface Soils (0 – 2 Inches)

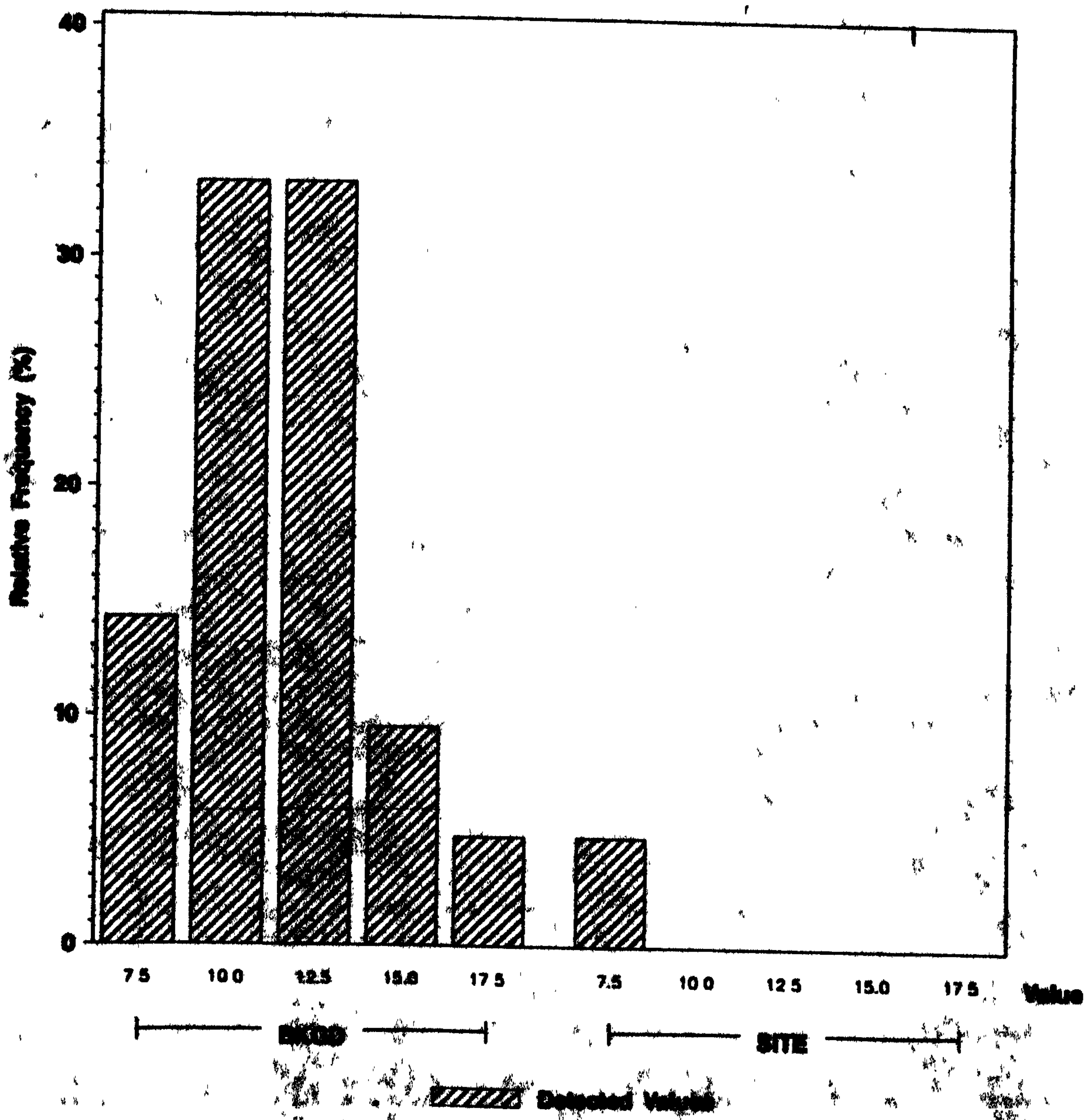
ANALYTE=MAGNESIUM



Background vs IHSS 203 Frequency Histogram

LITHIUM (mg/Kg) in Surface Soils (0–2 inches)

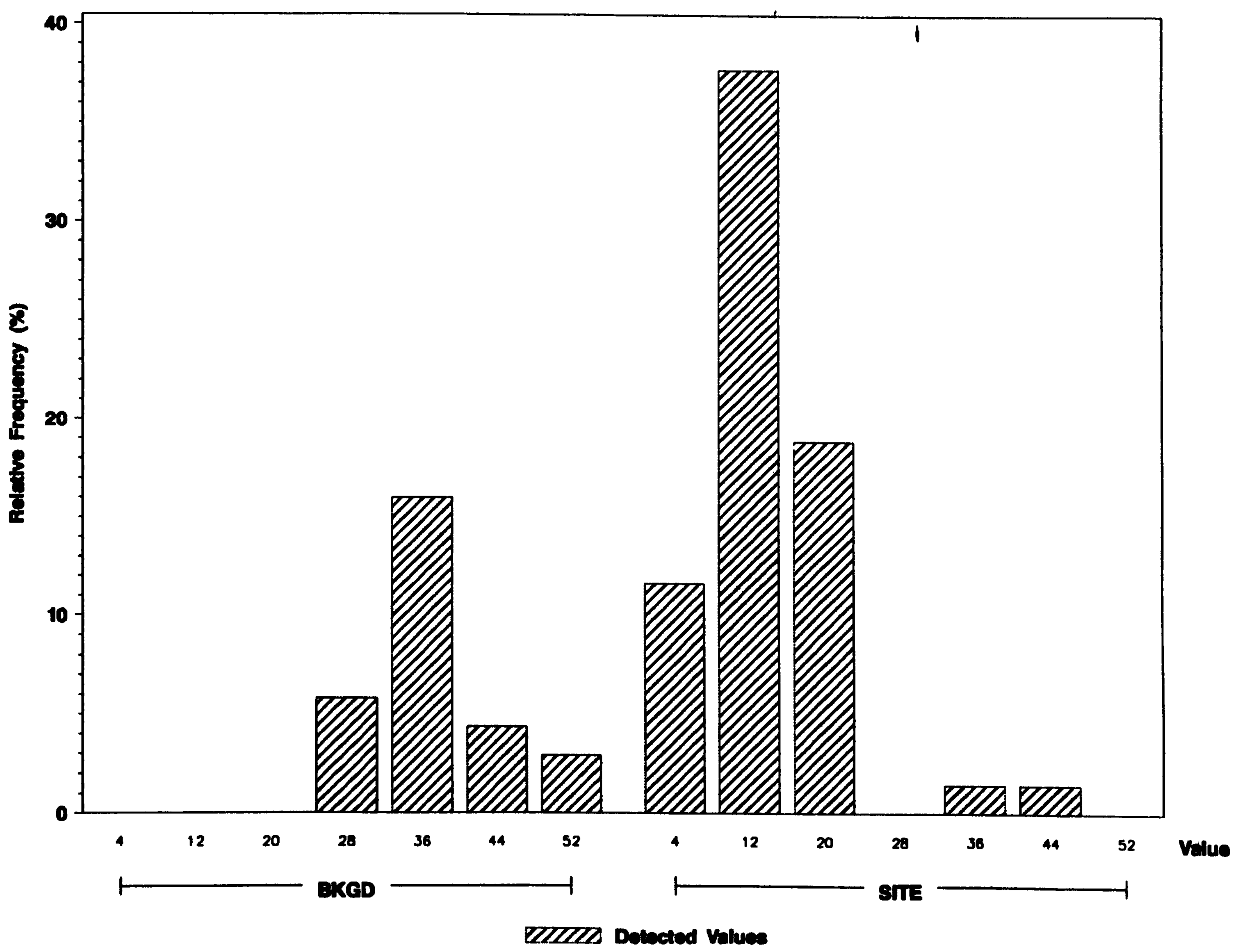
ANALYTE=LITHIUM



Background vs IHSS 203 Frequency Histogram

LEAD (mg/Kg) in Surface Soils (0-2 Inches)

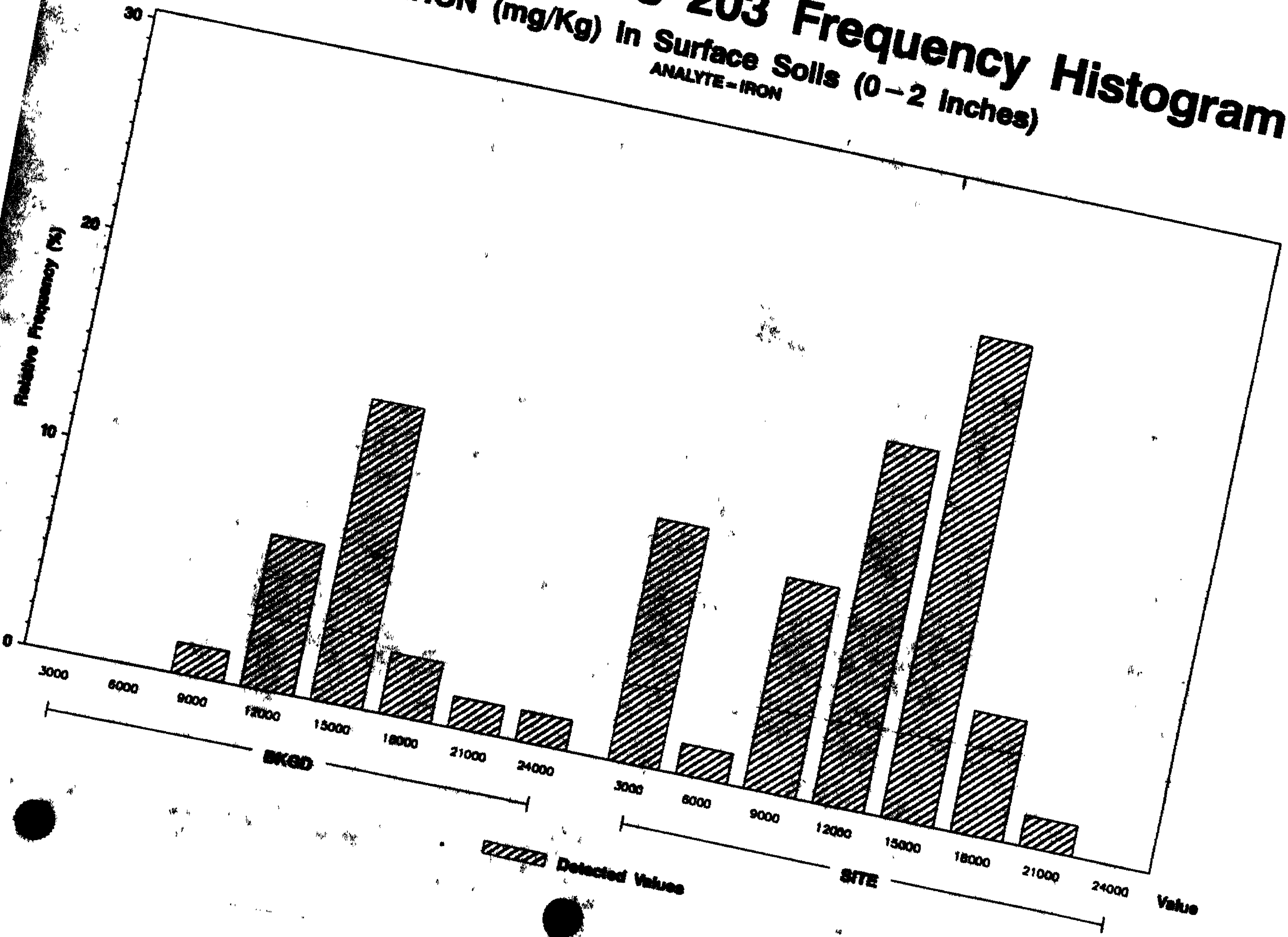
ANALYTE=LEAD



…ackground vs IHSS 203 Frequency Histogram

IRON (mg/Kg) in Surface Soils (0–2 Inches)

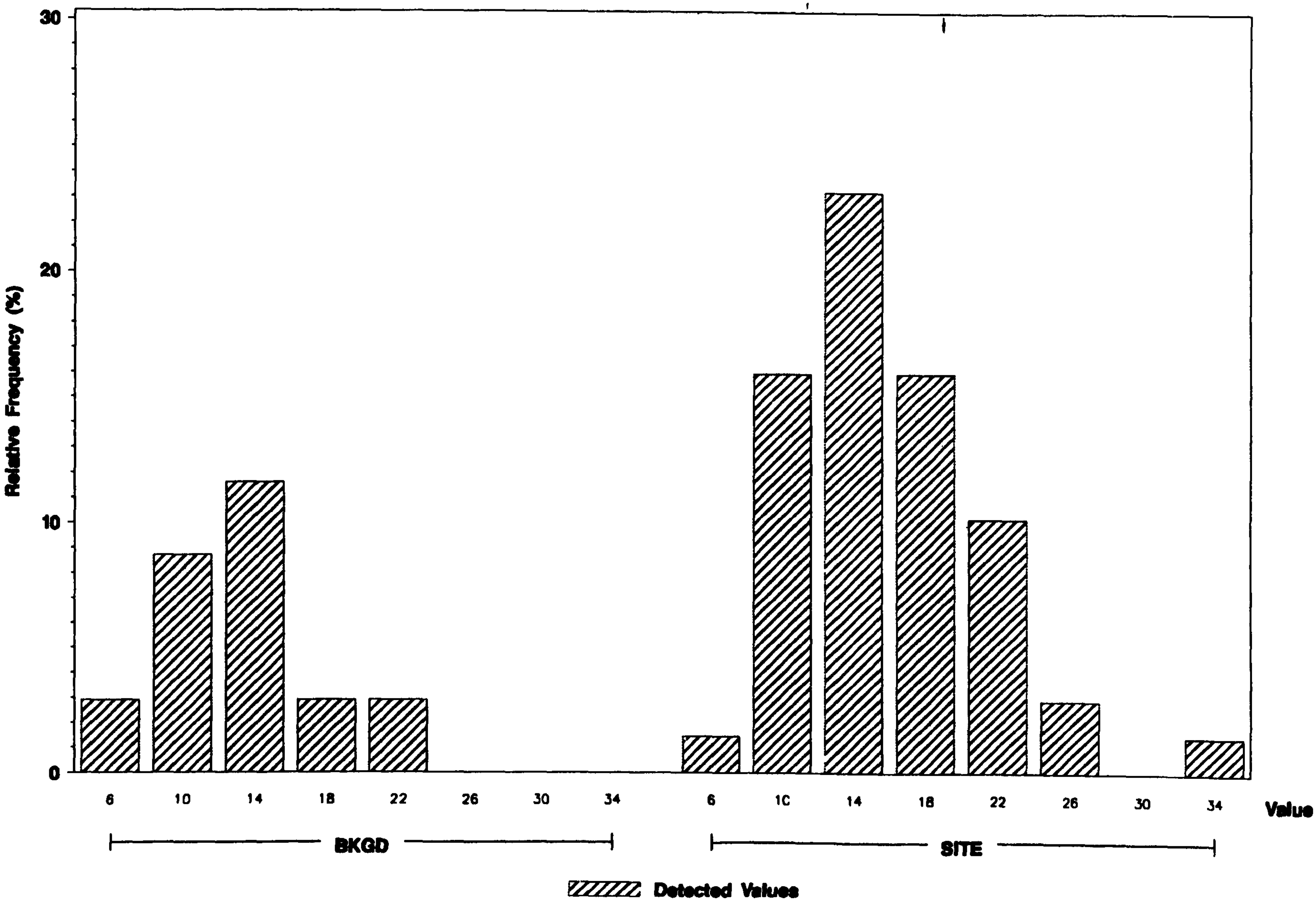
ANALYTE = IRON



Background vs IHSS 203 Frequency Histogram

COPPER (mg/Kg) in Surface Soils (0 – 2 inches)

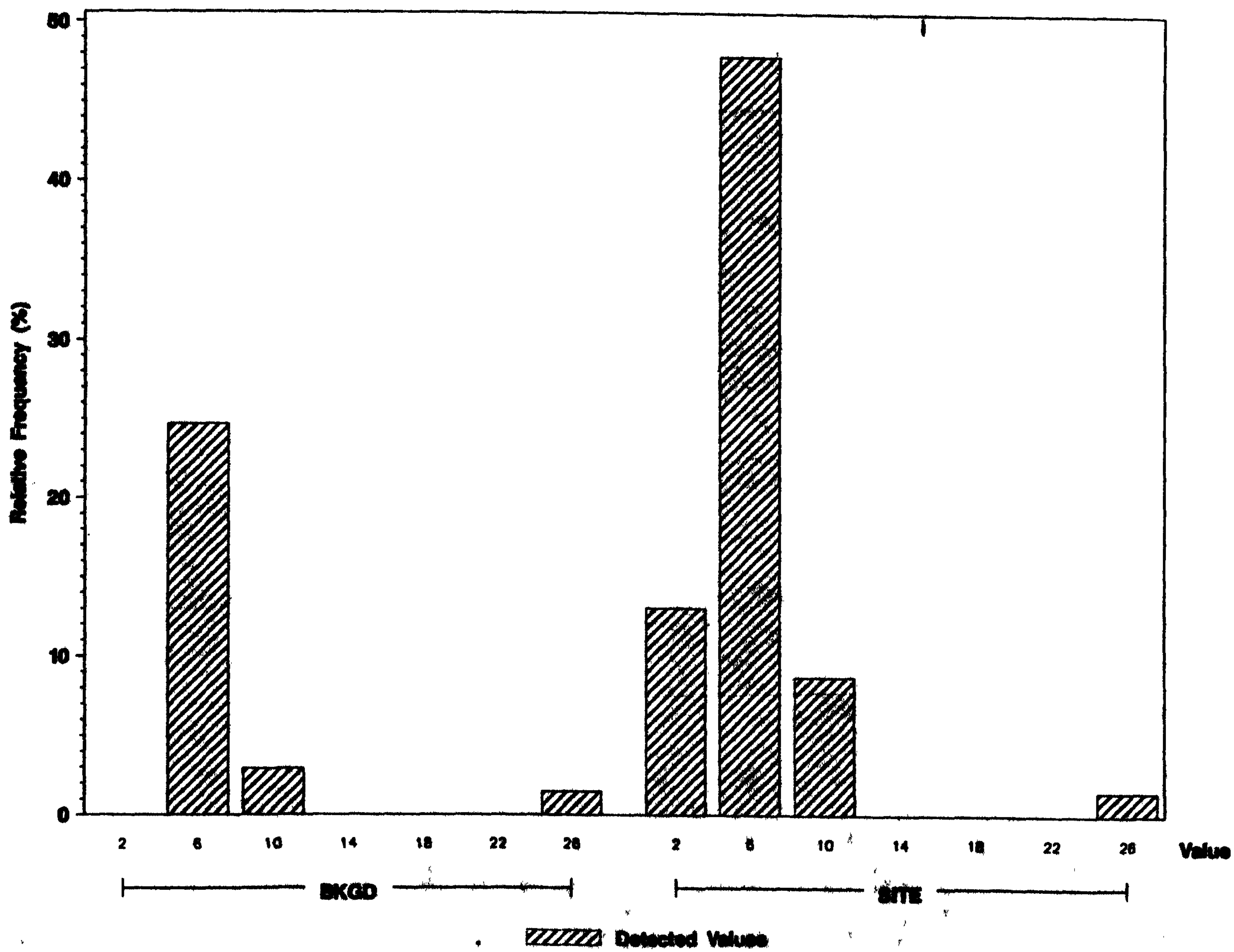
ANALYTE=COPPER



Background vs IHSS 203 Frequency Histogram

COBALT (mg/Kg) in Surface Soils (0 – 2 Inches)

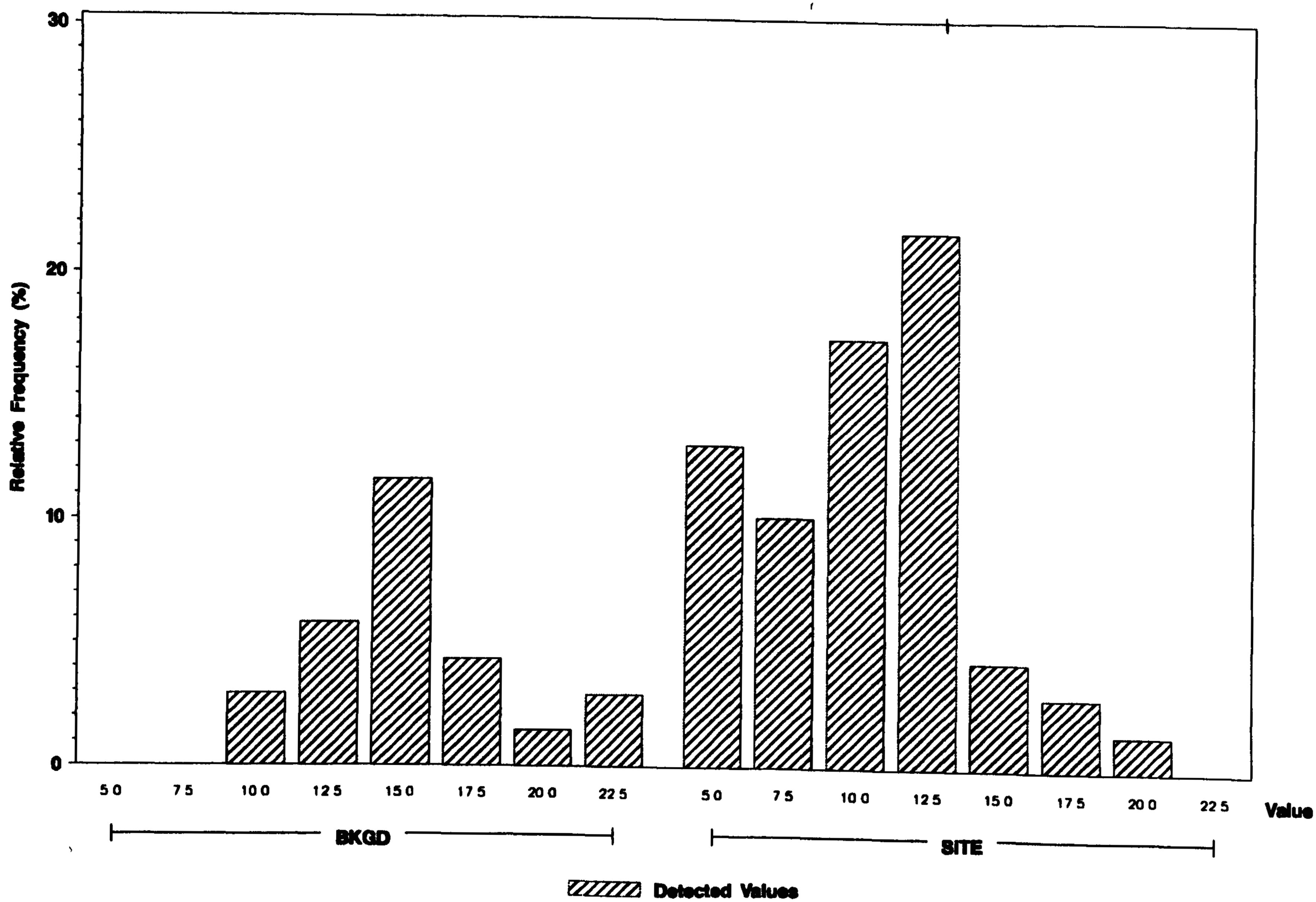
ANALYTE=COBALT



Background vs IHSS 203 Frequency Histogram

CHROMIUM (mg/Kg) in Surface Soils (0 – 2 Inches)

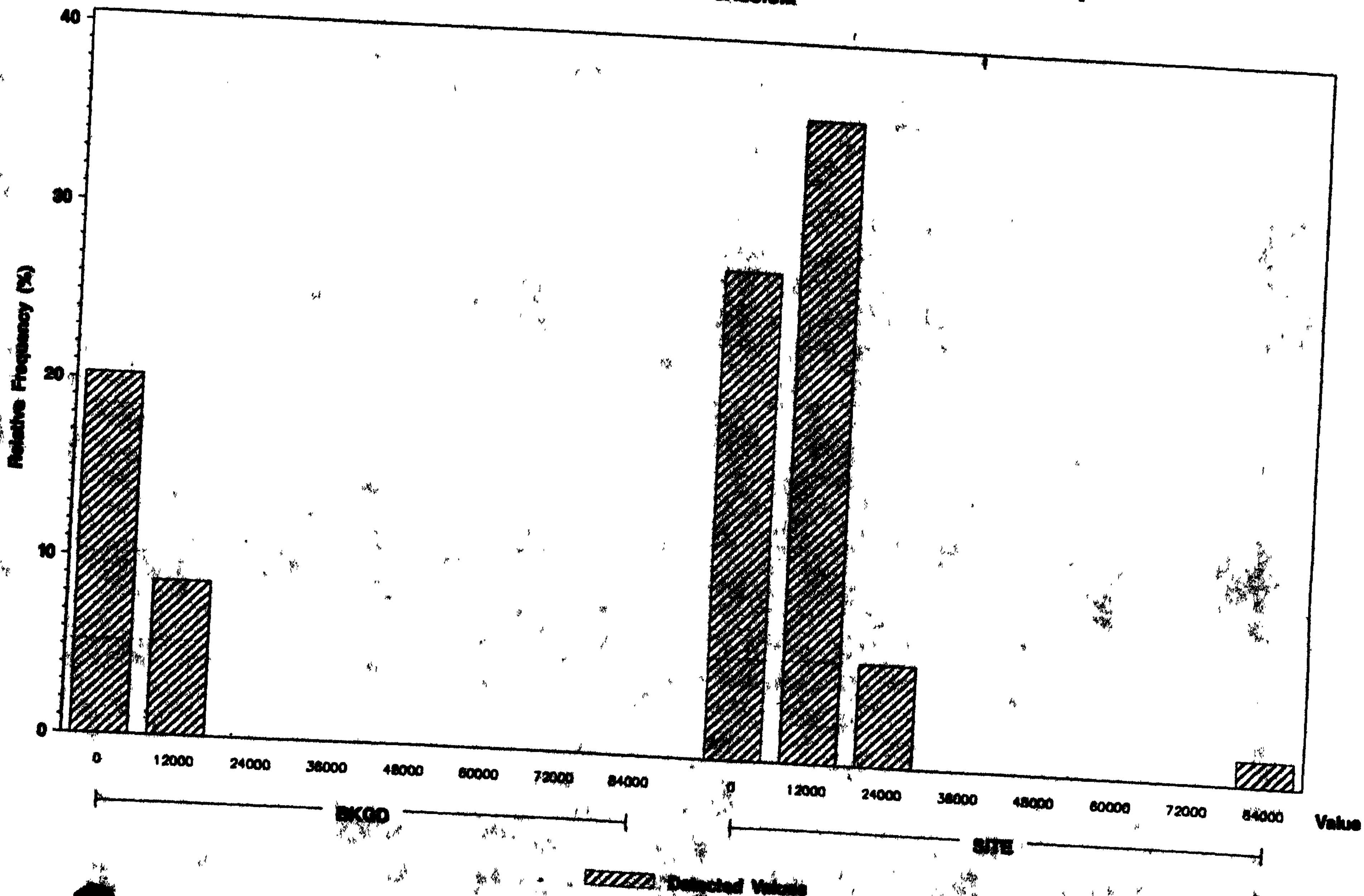
ANALYTE = CHROMIUM



Background vs IHSS 203 Frequency Histogram

CALCIUM (mg/Kg) in Surface Soils (0–2 inches)

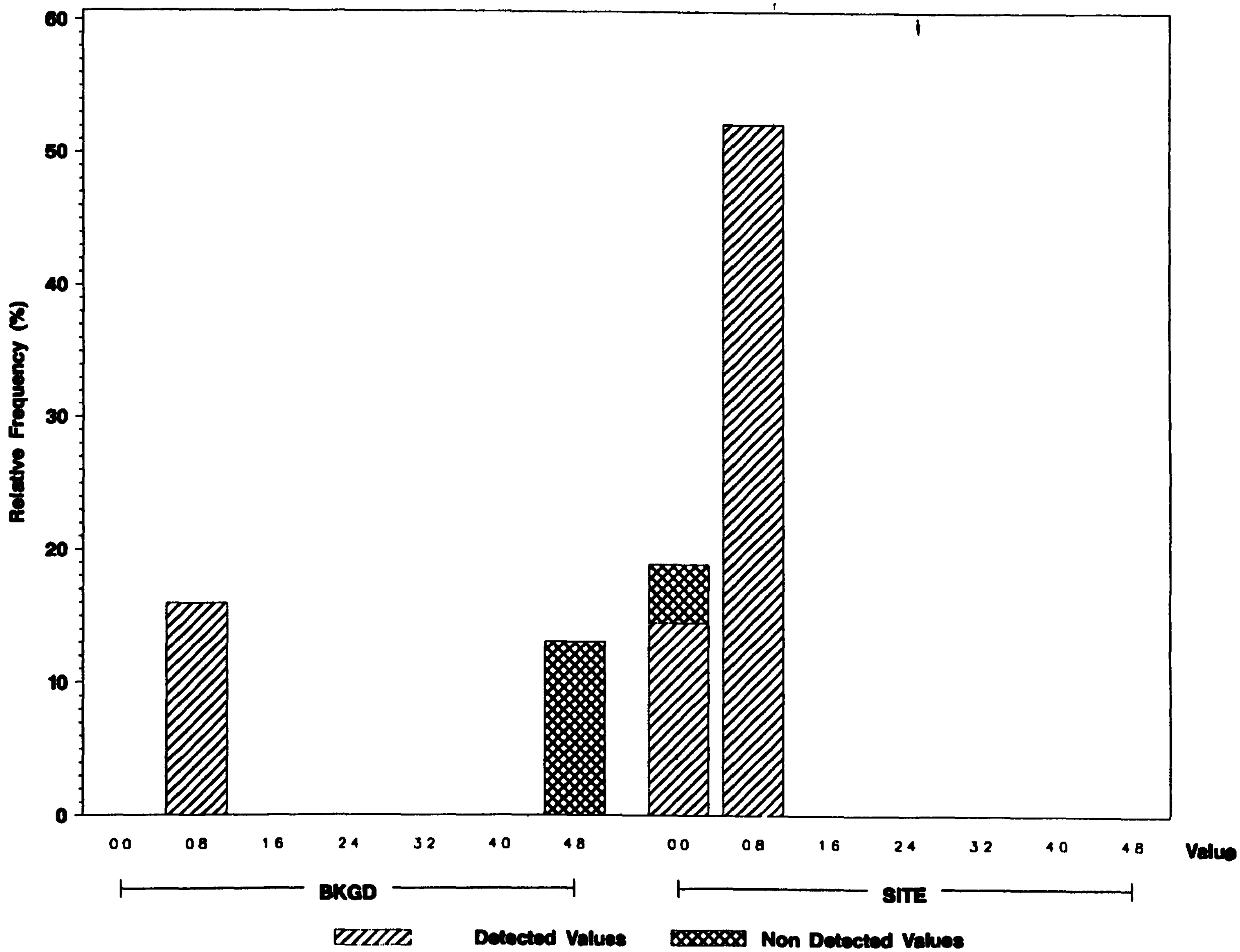
ANALYTE=CALCIUM



Background vs IHSS 203 Frequency Histogram

BERYLLIUM (mg/Kg) in Surface Soils (0 – 2 inches)

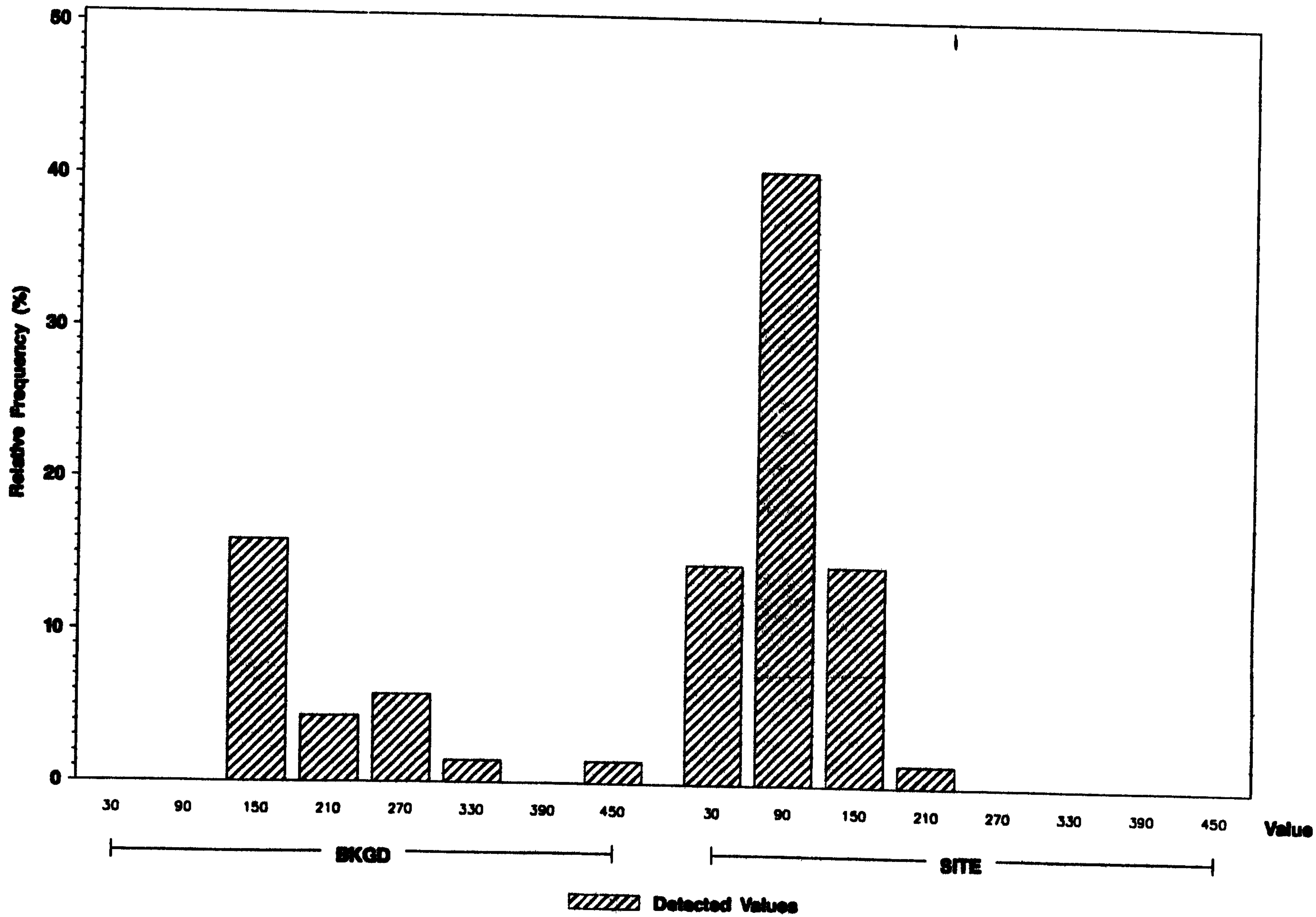
ANALYTE = BERYLLIUM



Background vs IHSS 203 Frequency Histogram

BARIUM (mg/Kg) in Surface Soils (0 – 2 Inches)

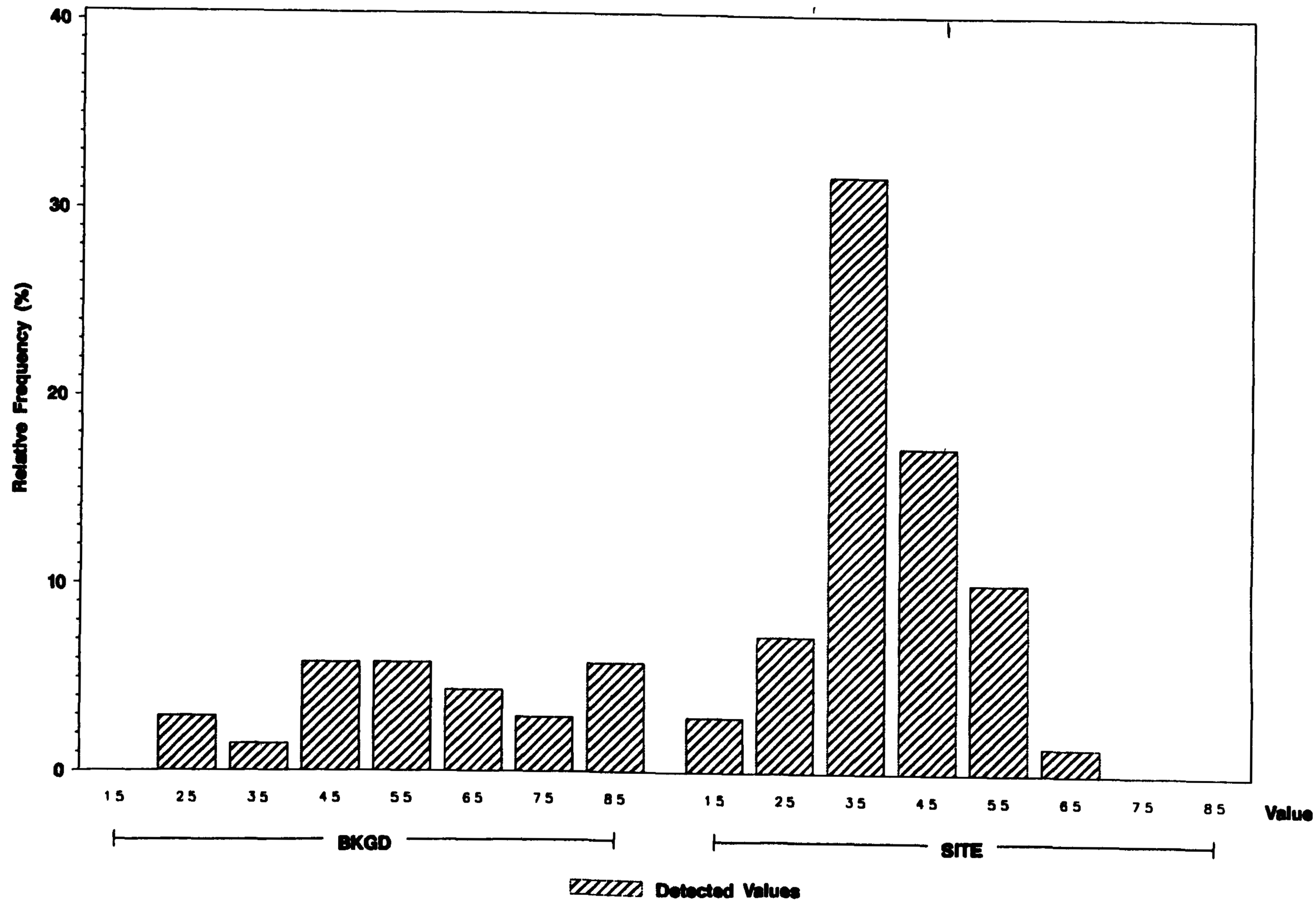
ANALYTE = BARIUM



Background vs IHSS 203 Frequency Histogram

ARSENIC (mg/Kg) in Surface Soils (0 – 2 Inches)

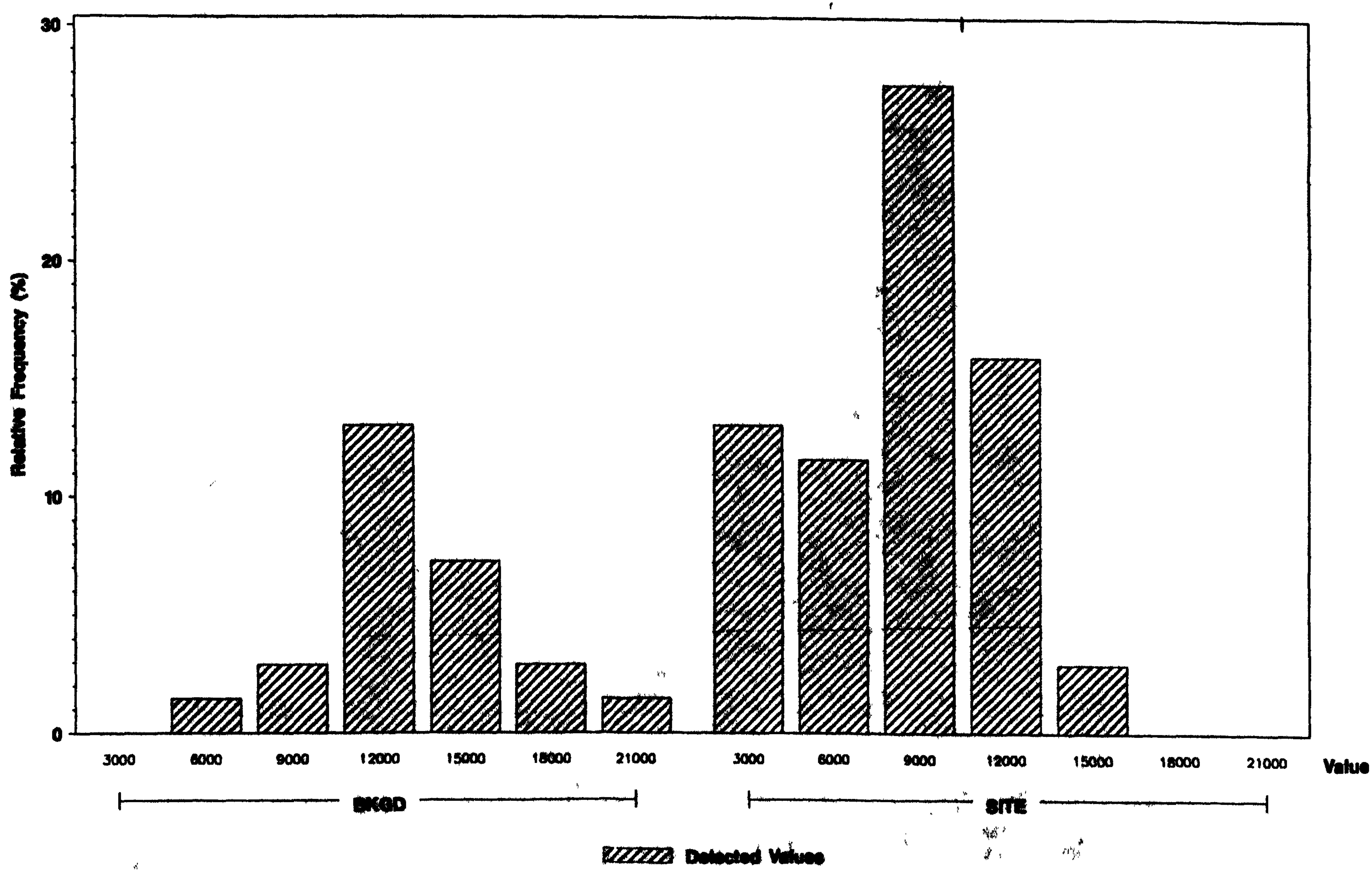
ANALYTE = ARSENIC



Background vs IHSS 203 Frequency Histogram

ALUMINUM (mg/Kg) in Surface Soils (0 – 2 Inches)

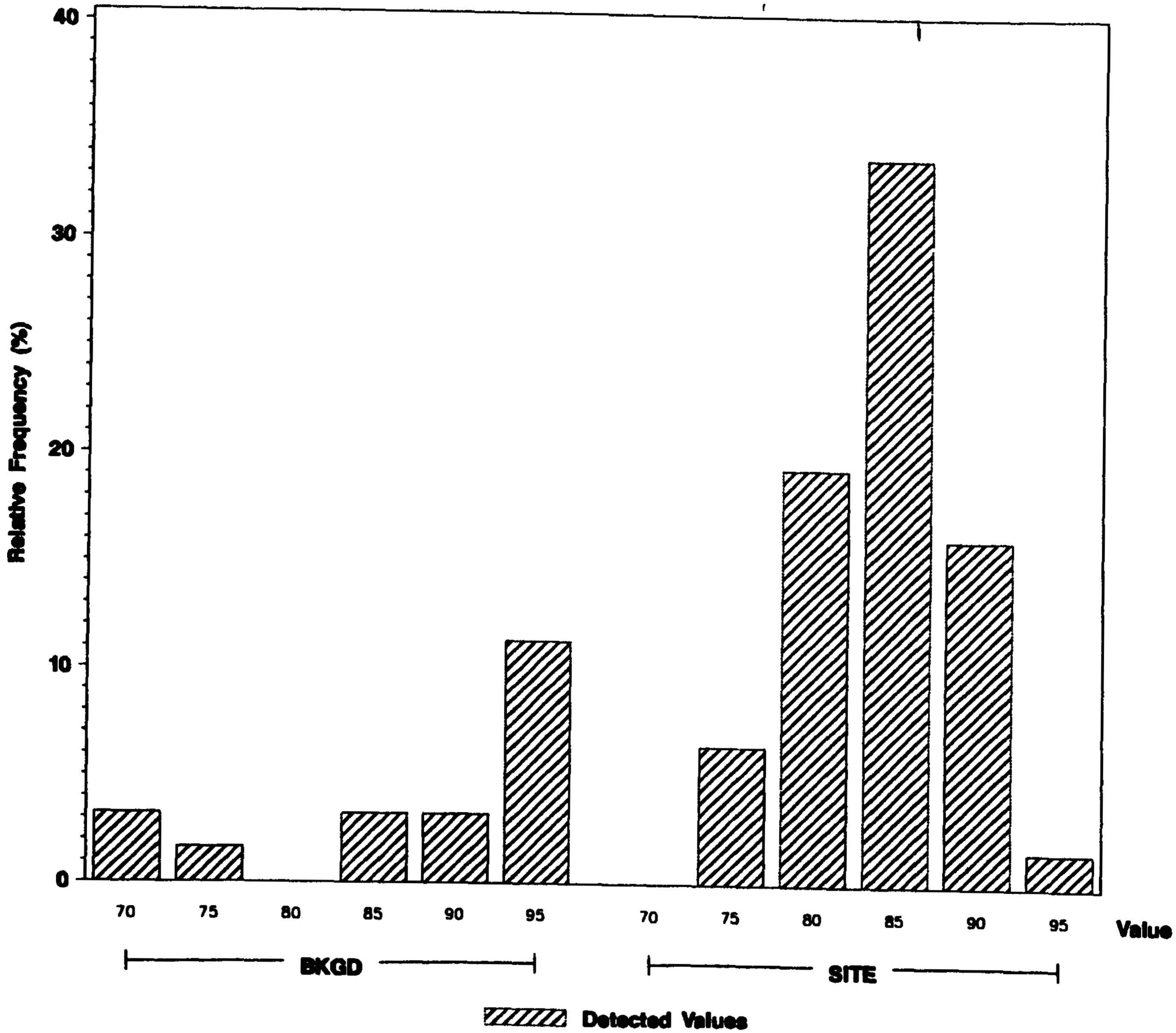
ANALYTE = ALUMINUM



Background vs IHSS 203 Frequency Histogram

% SOLIDS (%) in Surface Soils (0 – 2 inches)

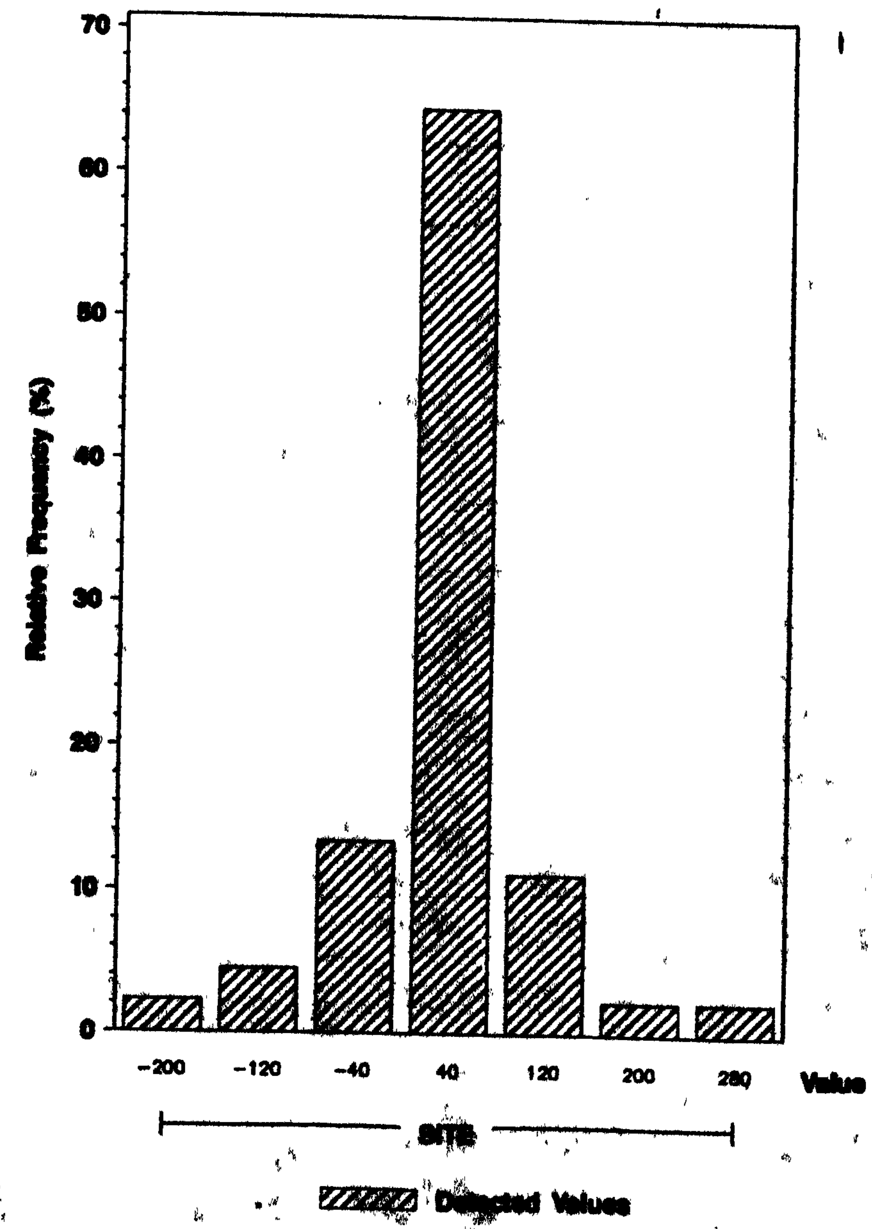
ANALYTE = % SOLIDS



Background vs IHSS 203 Frequency Histogram

TRITIUM (pCI/L) In Surface Soils (0 – 2 Inches)

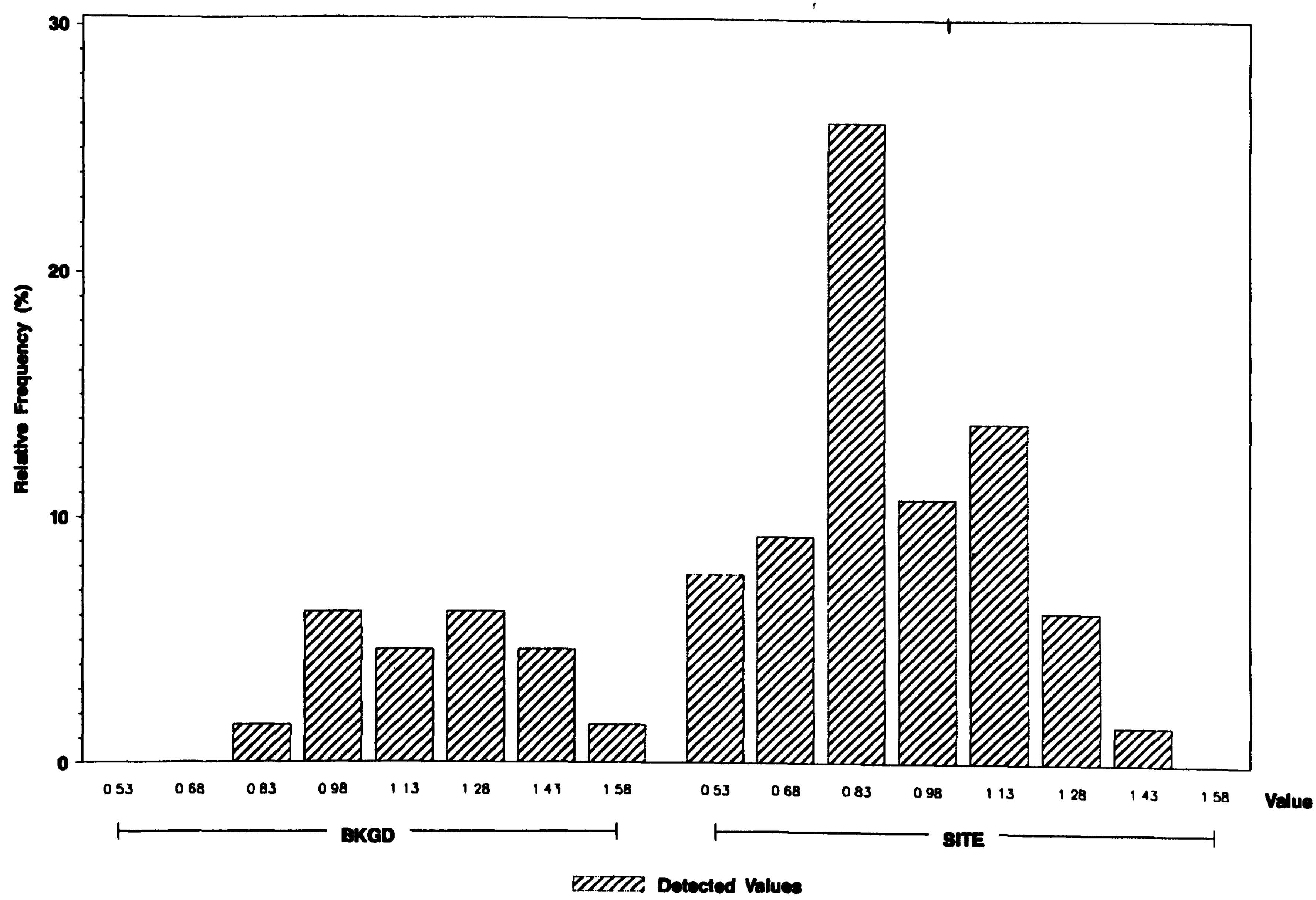
ANALYTE = TRITIUM



Background vs IHSS 203 Frequency Histogram

URANIUM – 238 (pCi/g) in Surface Soils (0 – 2 inches)

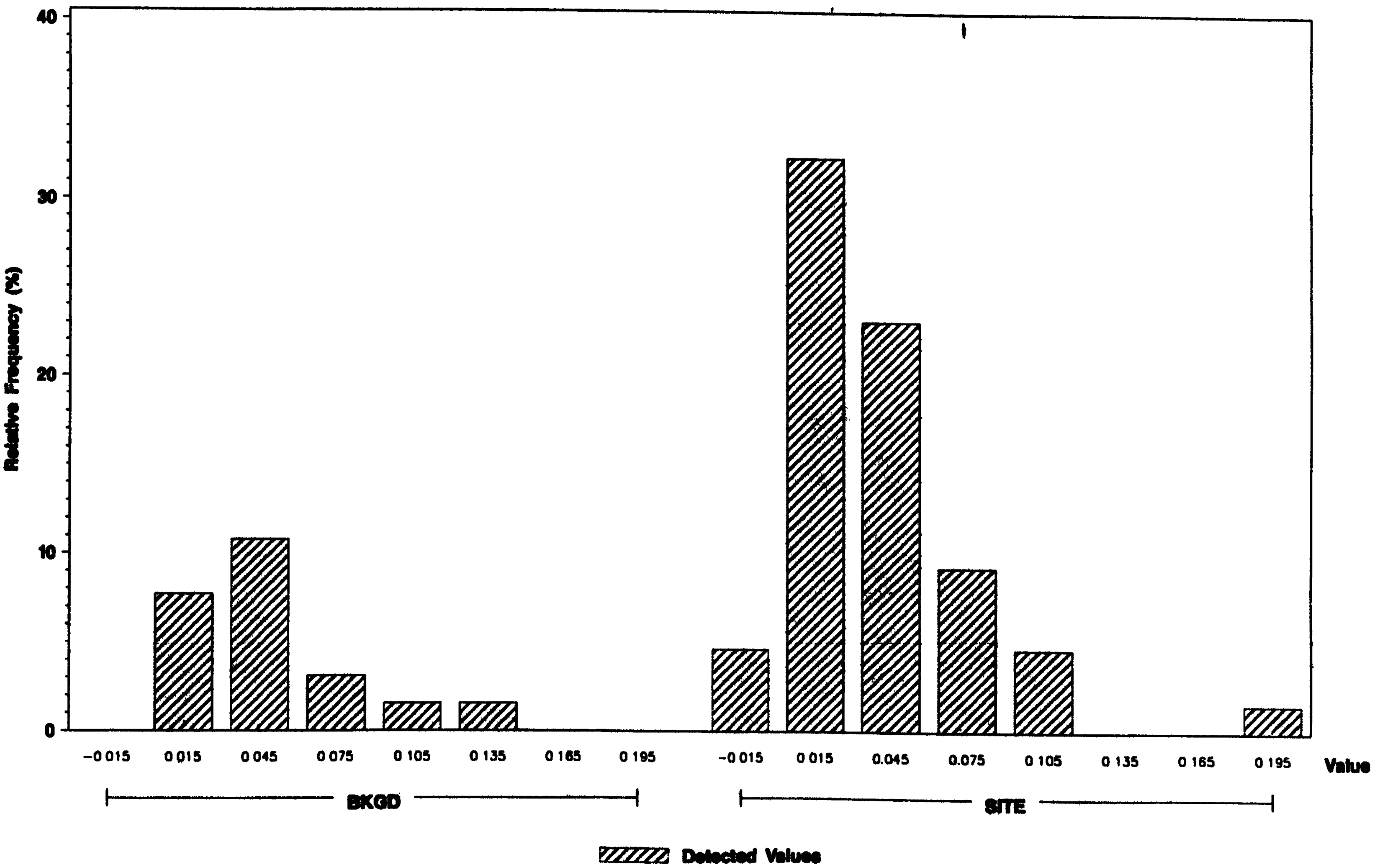
ANALYTE = URANIUM – 238



Background vs IHSS 203 Frequency Histogram

URANIUM-235 (pCi/g) in Surface Soils (0-2 inches)

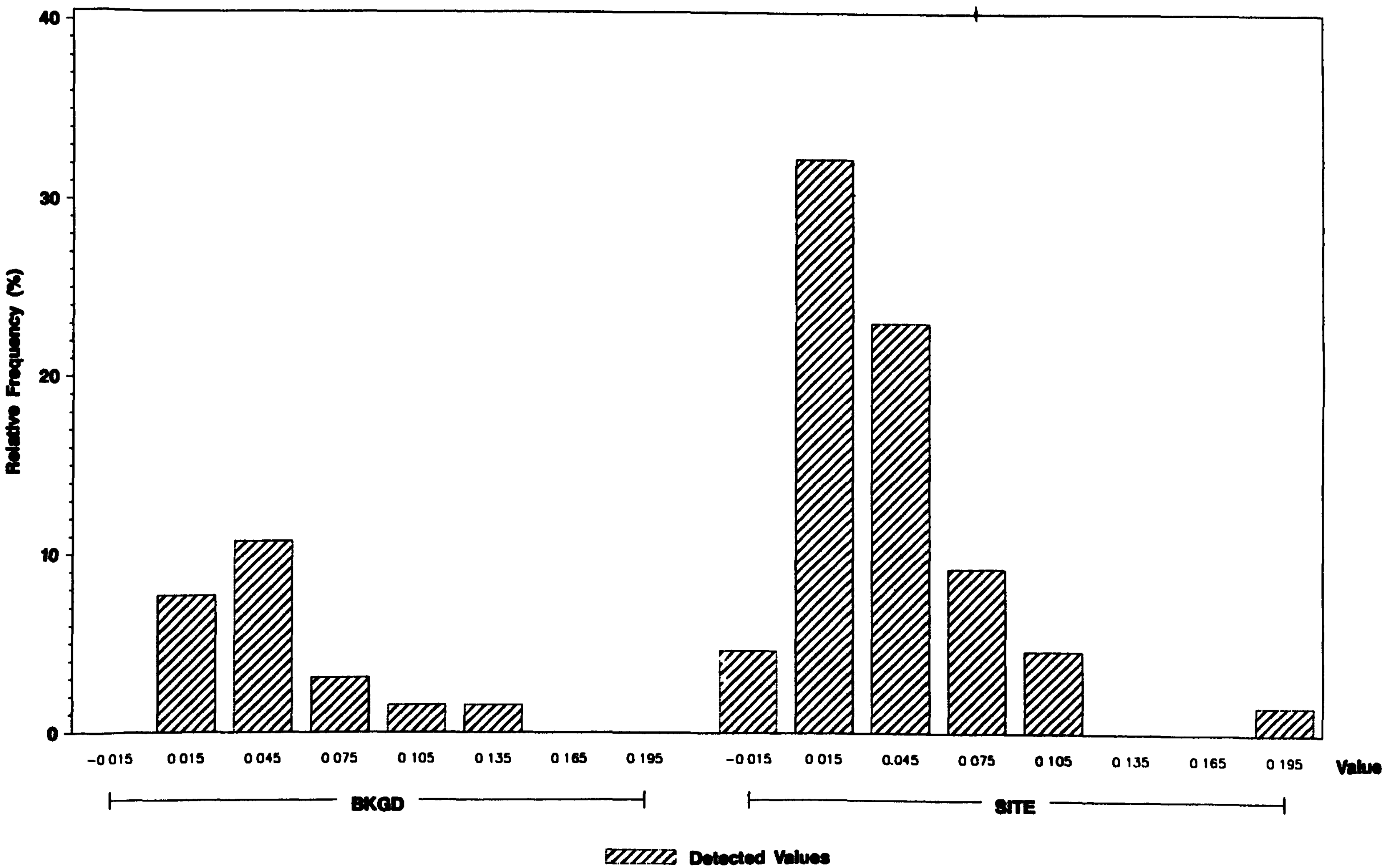
ANALYTE=URANIUM-235



Background vs IHSS 203 Frequency Histogram

URANIUM – 235 (pCi/g) in Surface Soils (0 – 2 Inches)

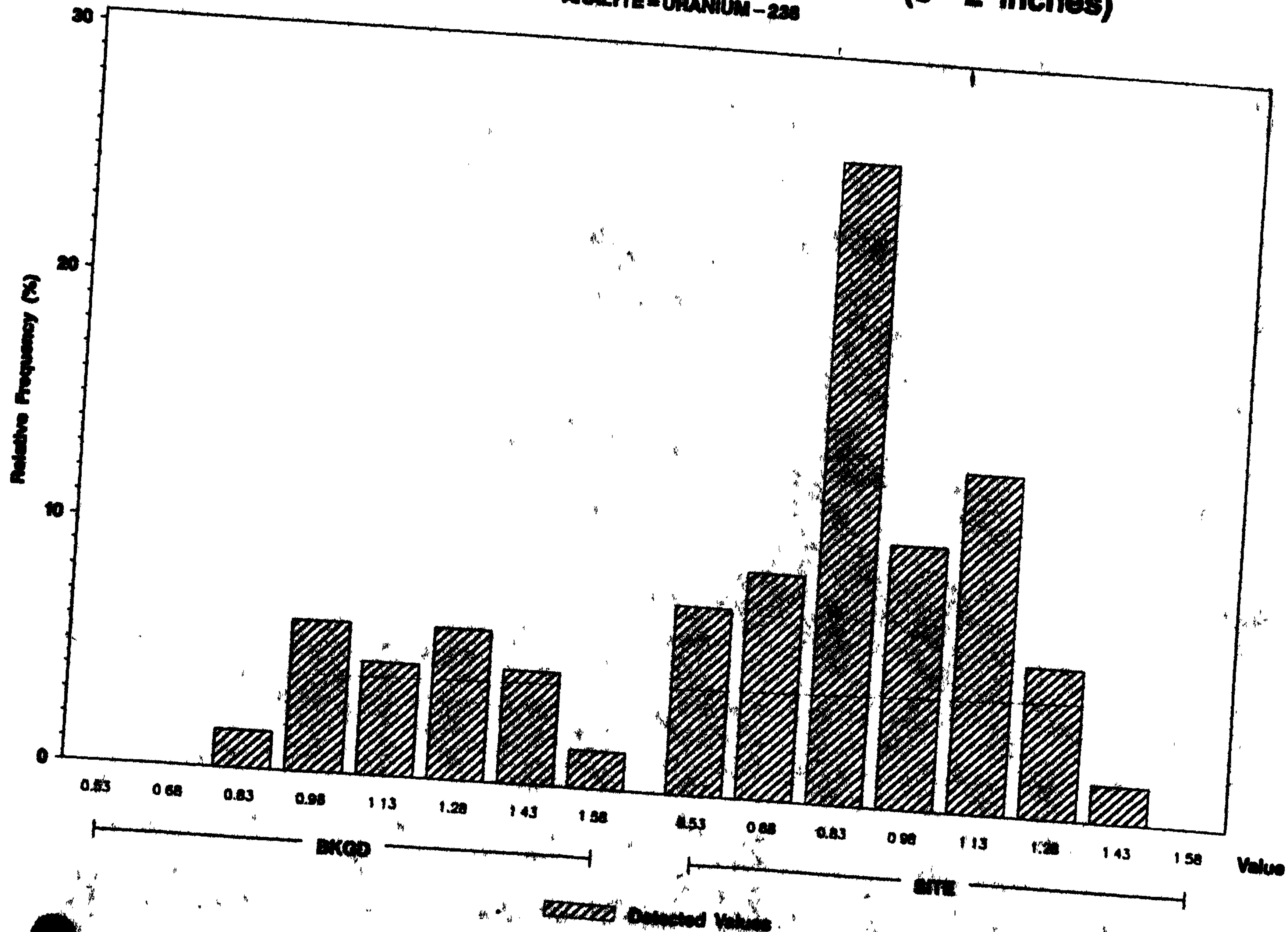
ANALYTE = URANIUM – 235



Background vs IHSS 203 Frequency Histogram

URANIUM−238 (pCi/g) In Surface Soils (0−2 Inches)

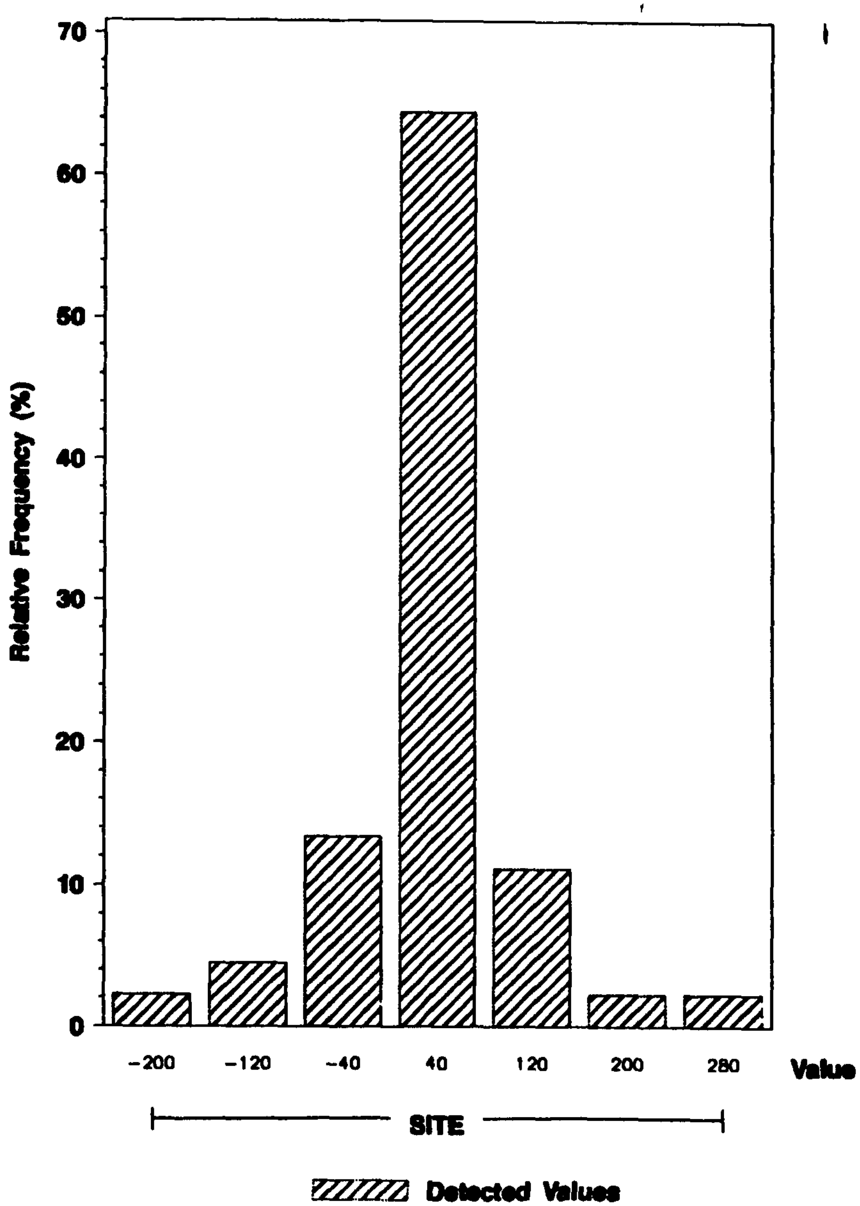
ANALYTE=URANIUM−238



Background vs IHSS 203 Frequency Histogram

TRITIUM (pCi/L) in Surface Soils (0 – 2 Inches)

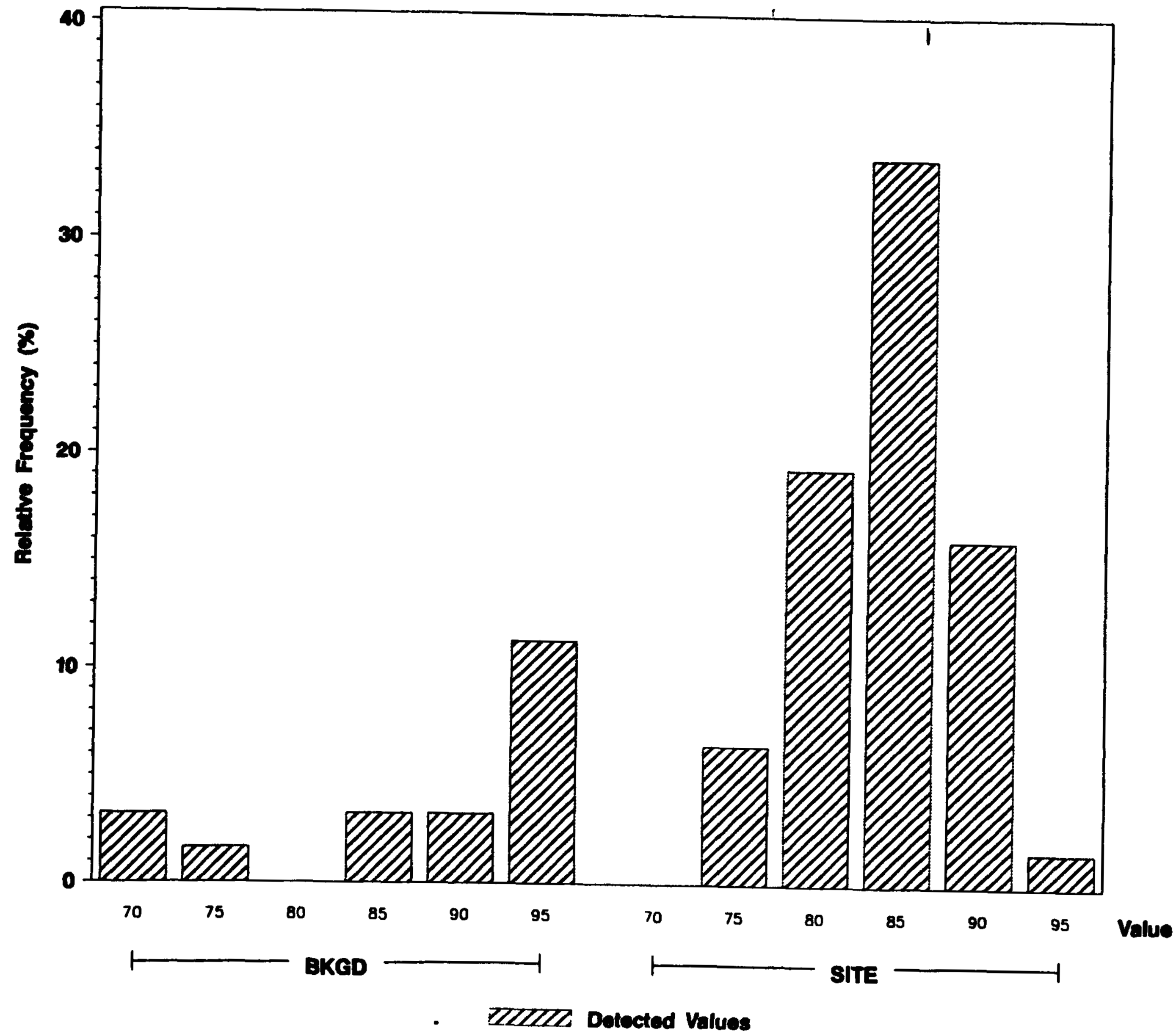
ANALYTE = TRITIUM



Background vs IHSS 203 Frequency Histogram

% SOLIDS (%) In Surface Soils (0 – 2 Inches)

ANALYTE=% SOLIDS



Surface Soils

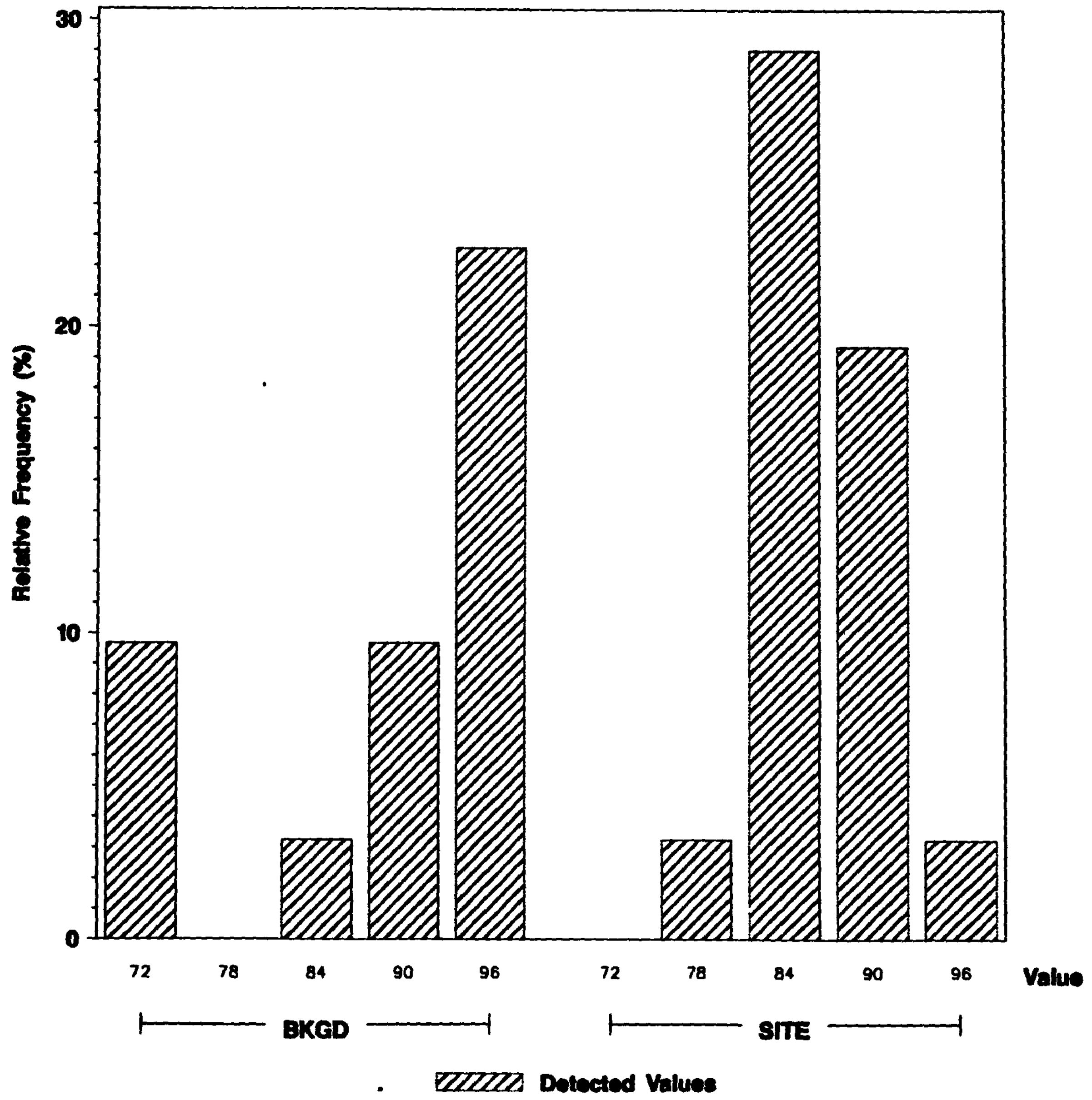
Background vs. IHSS 203

(0 to 10 inches)

Background vs IHSS 203 Frequency Histogram

% SOLIDS in Surface Soils (0 – 10 inches)

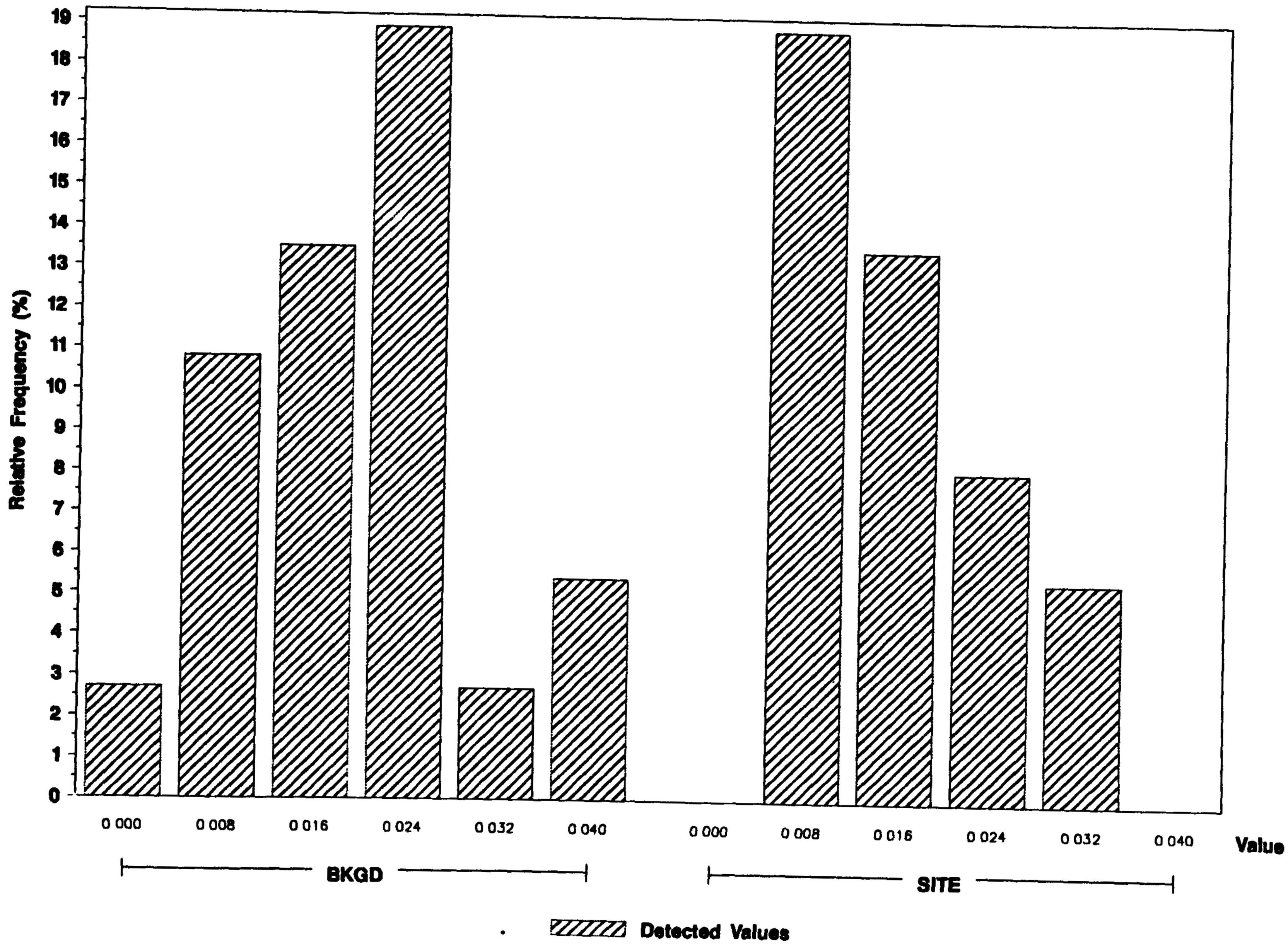
ANALYTE=% SOLIDS



Background vs IHSS 203 Frequency Histogram

AMERICIUM – 241 (pCi/g) in Surface Soils (0 – 10 inches)

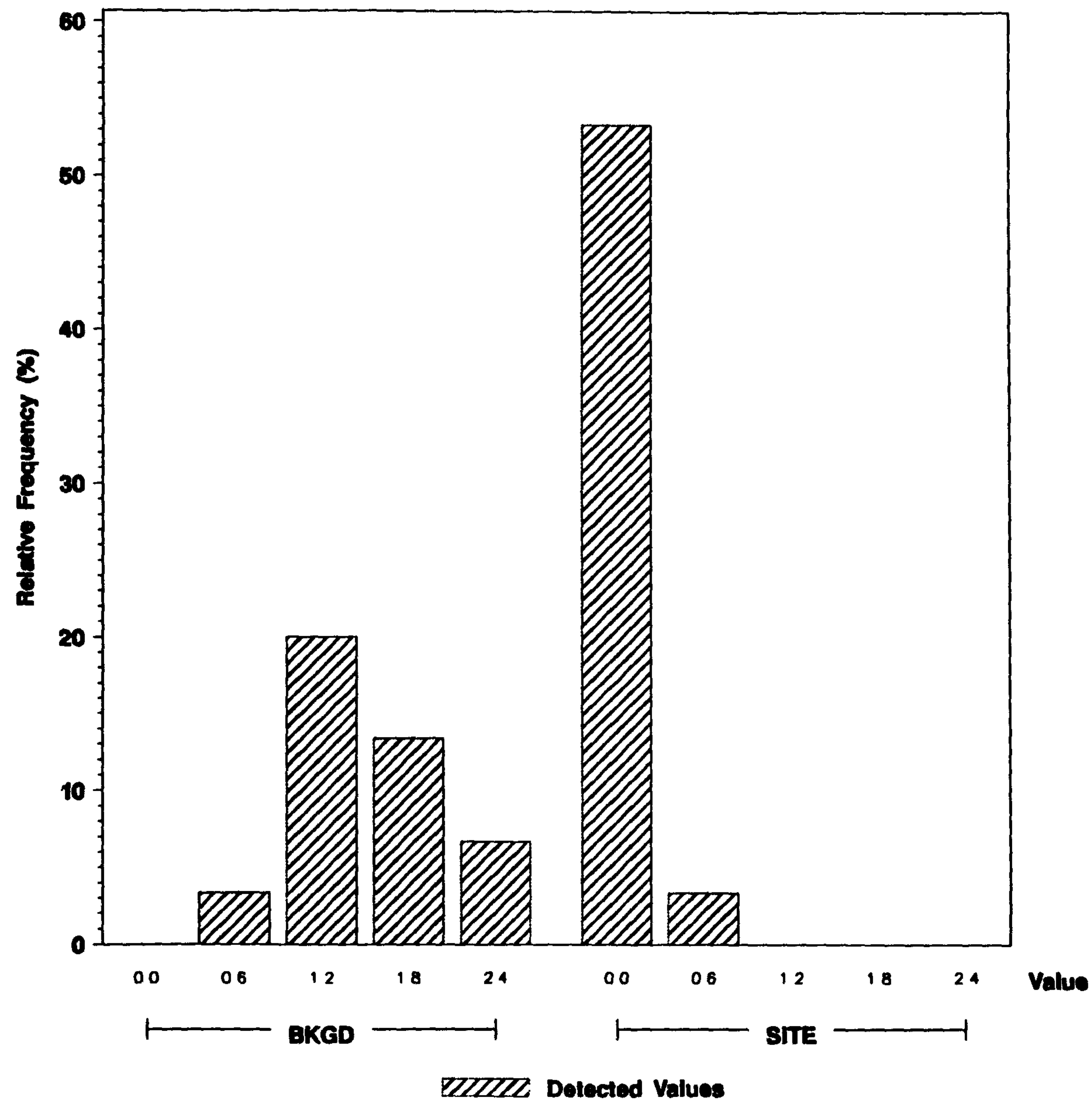
ANALYTE=AMERICIUM-241



Background vs IHSS 203 Frequency Histogram

CESIUM – 137 (pCi/g) in Surface Soils (0 – 10 inches)

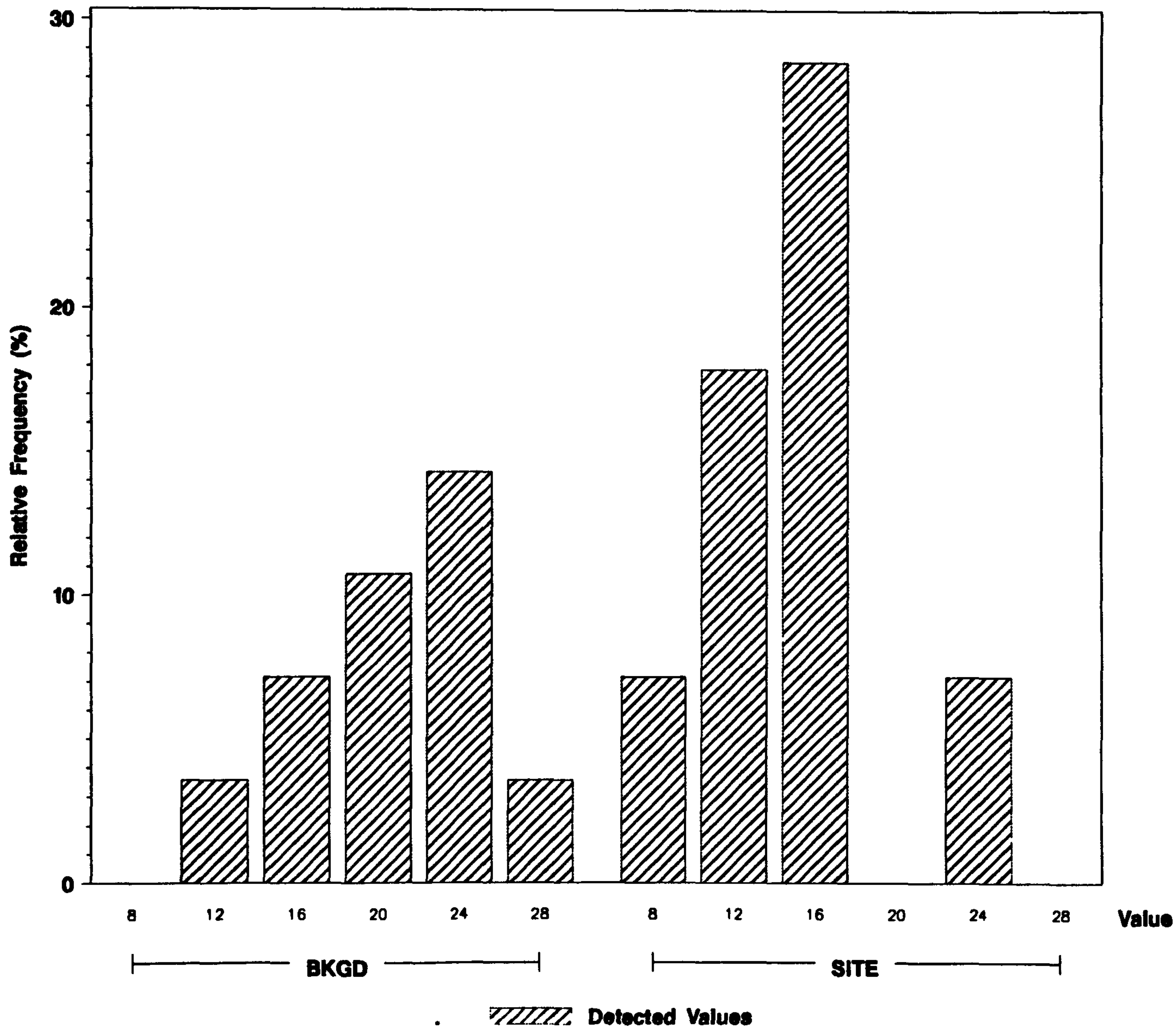
ANALYTE = CESIUM – 137



Background vs IHSS 203 Frequency Histogram

GROSS ALPHA (pCi/g) in Surface Soils (0–10 Inches)

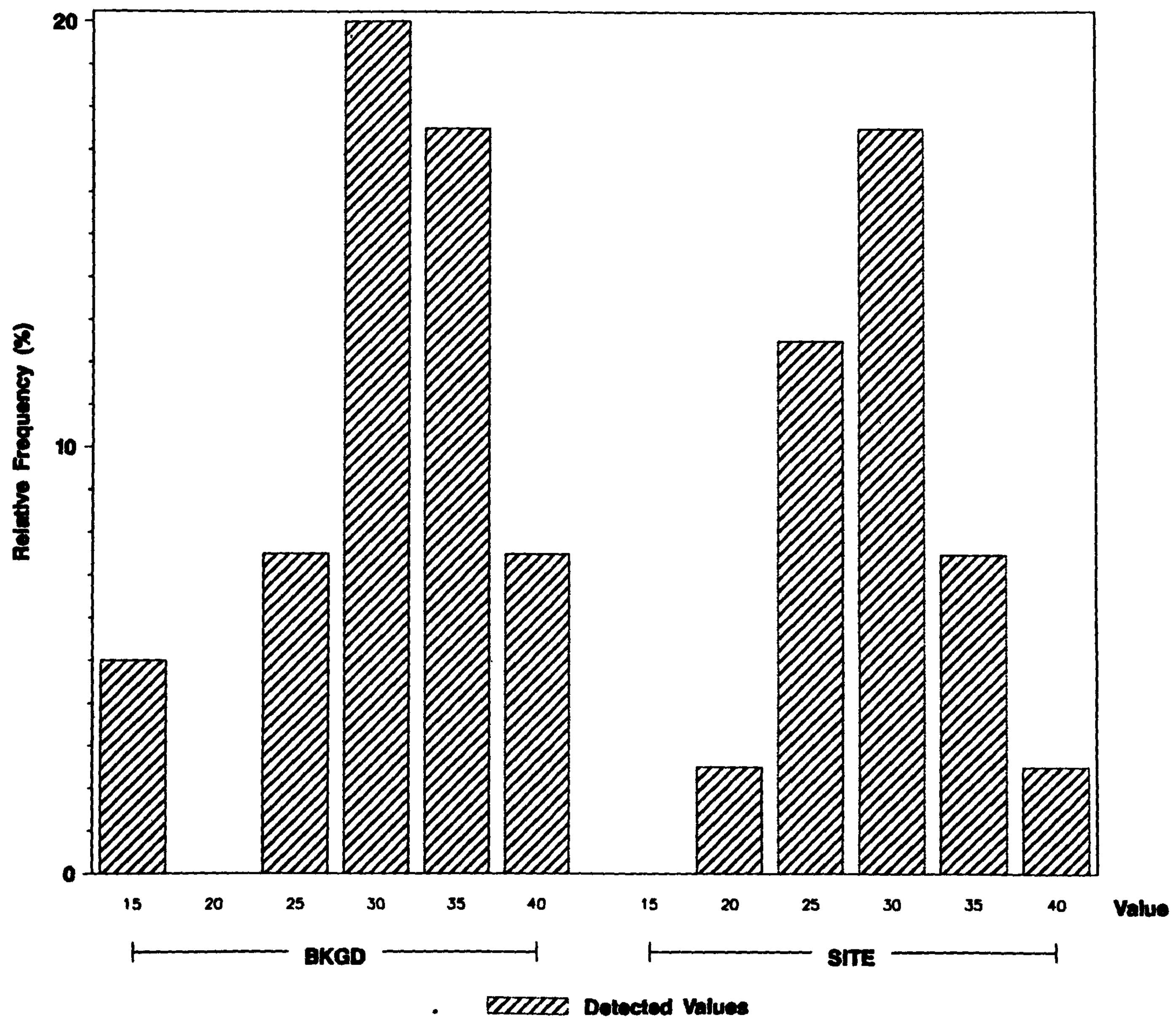
ANALYTE=GROSS ALPHA



Background vs IHSS 203 Frequency Histogram

GROSS BETA (pCi/g) in Surface Soils (0–10 inches)

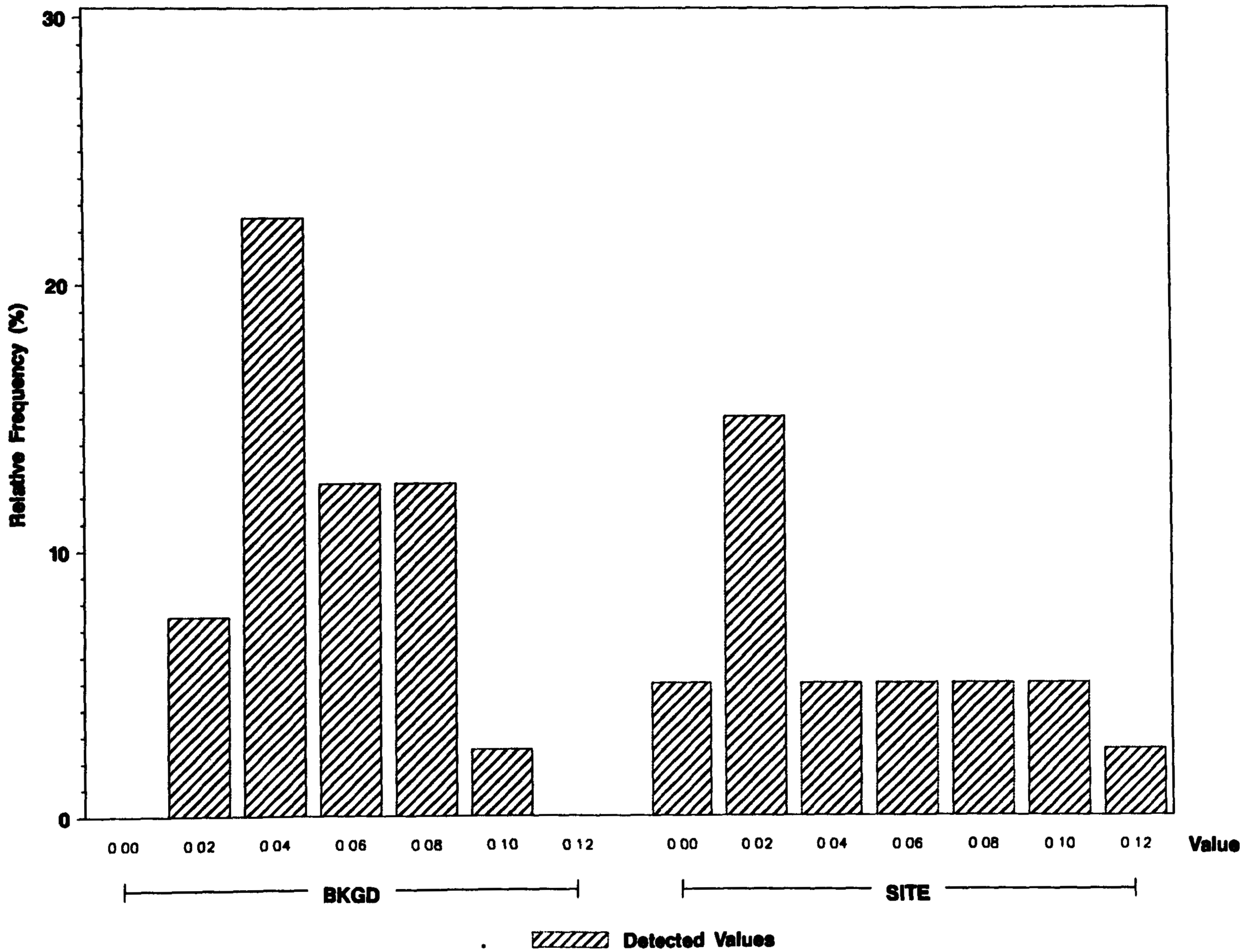
ANALYTE=GROSS BETA



Background vs IHSS 203 Frequency Histogram

PLUTONIUM – 239/240 (pCi/g) In Surface Soils (0 – 10 inches)

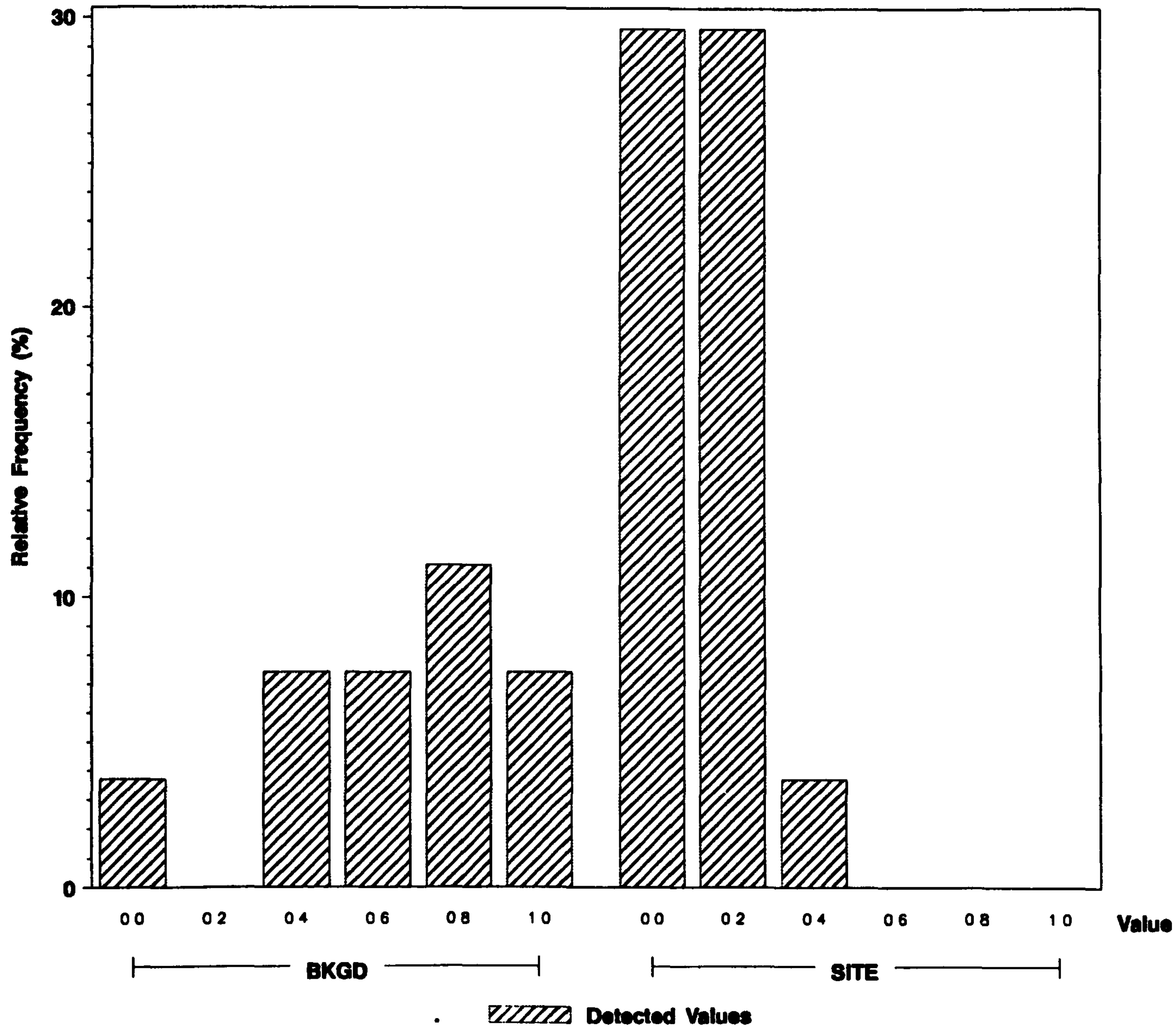
ANALYTE = PLUTONIUM – 239/240



Background vs IHSS 203 Frequency Histogram

STRONTIUM – 89,90 (pCi/g) in Surface Soils (0 – 10 inches)

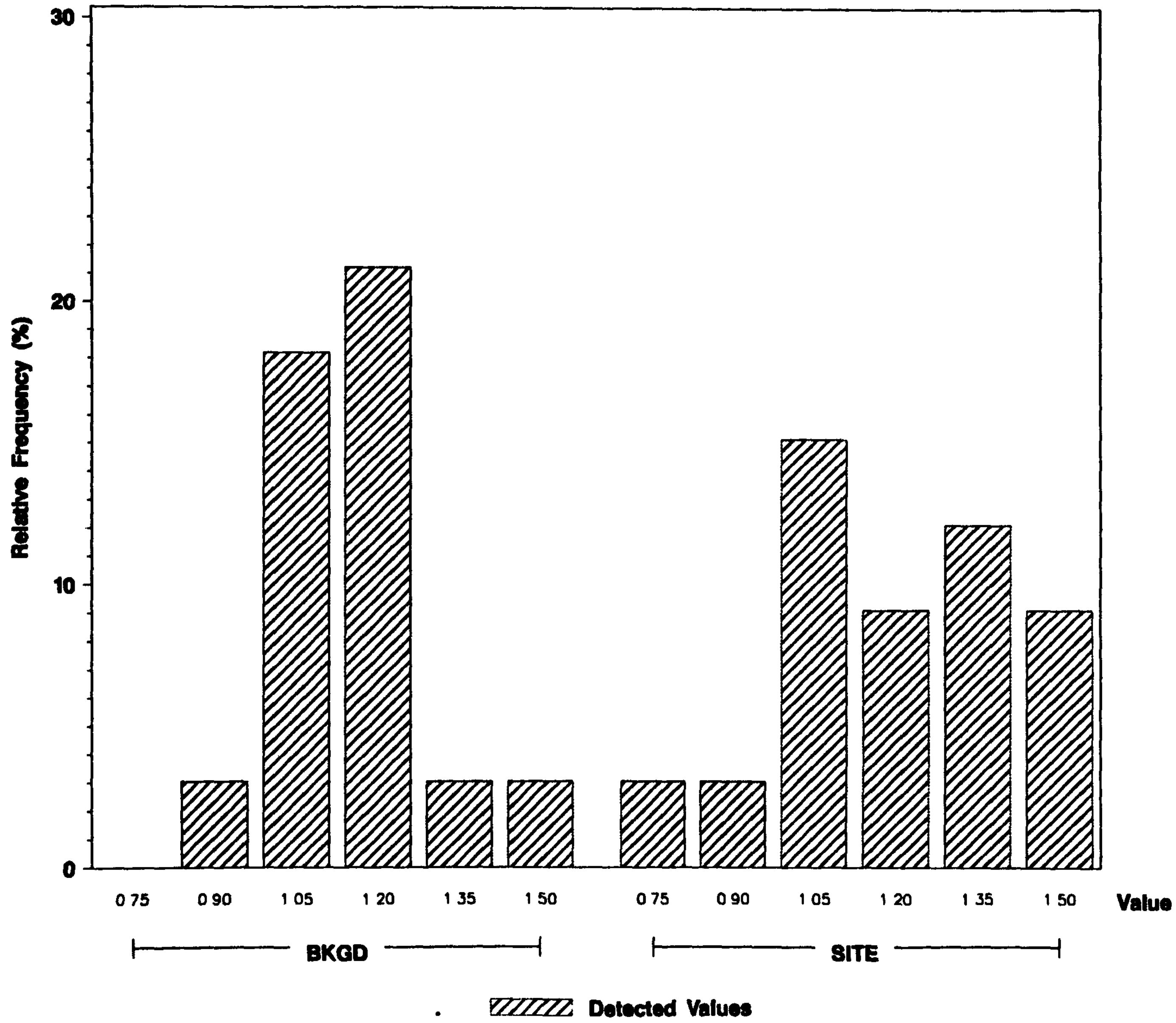
ANALYTE = STRONTIUM – 89,90



Background vs IHSS 203 Frequency Histogram

URANIUM – 233, – 234 (pCi/g) In Surface Soils (0 – 10 inches)

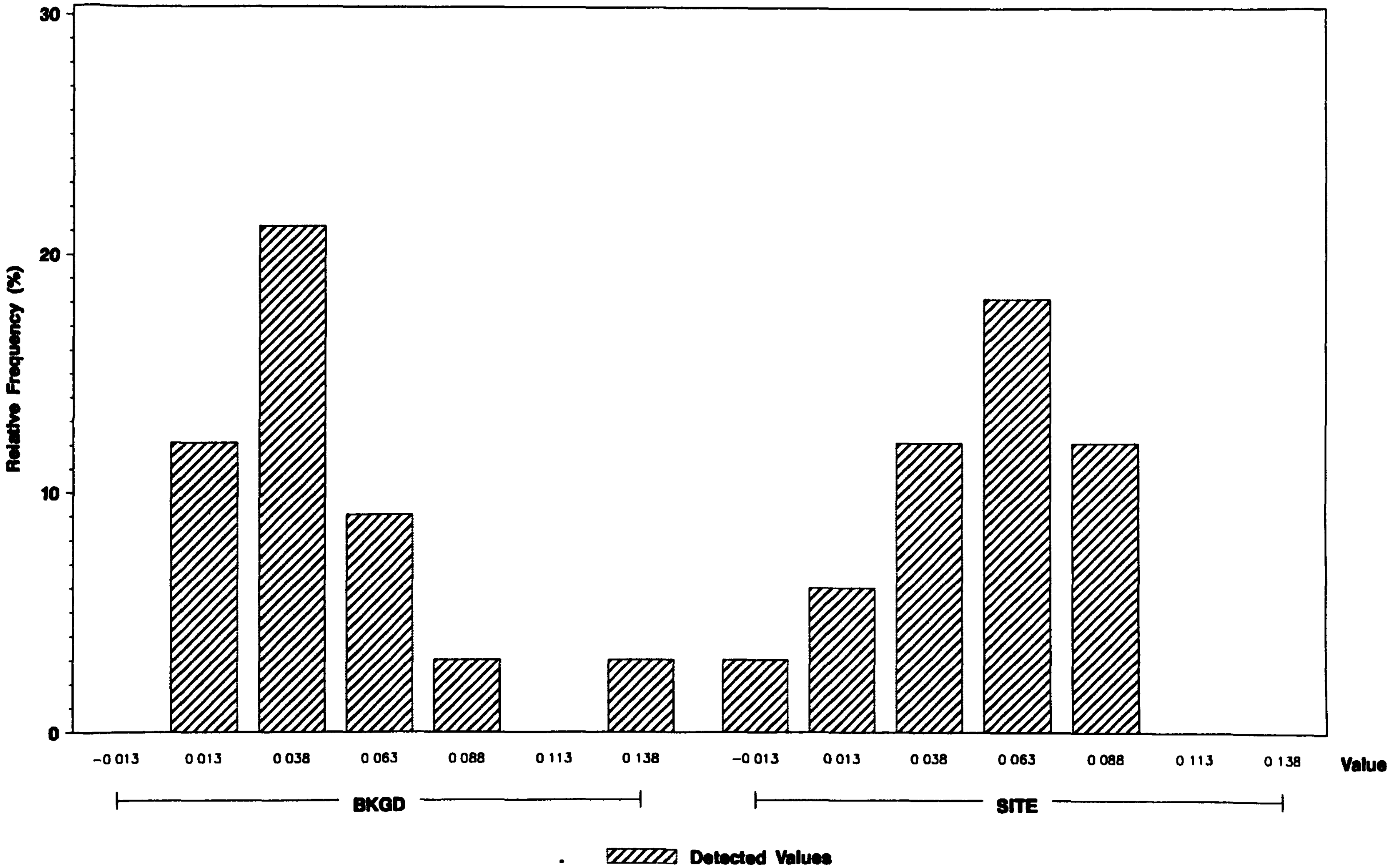
ANALYTE = URANIUM – 233, – 234



Background vs IHSS 203 Frequency Histogram

URANIUM−235 (pCi/g) in Surface Soils (0−10 Inches)

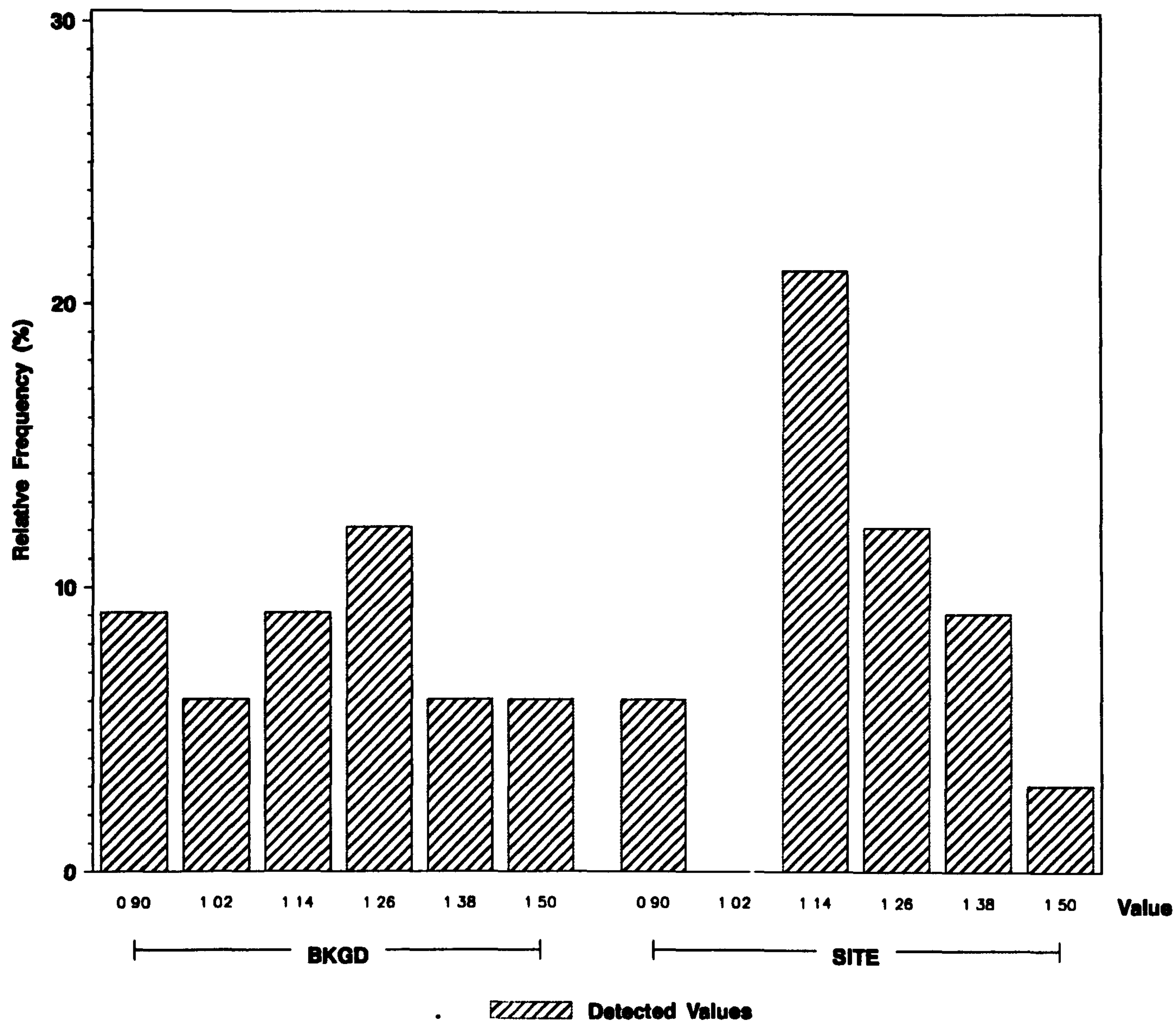
ANALYTE=URANIUM−235



Background vs IHSS 203 Frequency Histogram

URANIUM – 238 (pCi/g) in Surface Soils (0 – 10 Inches)

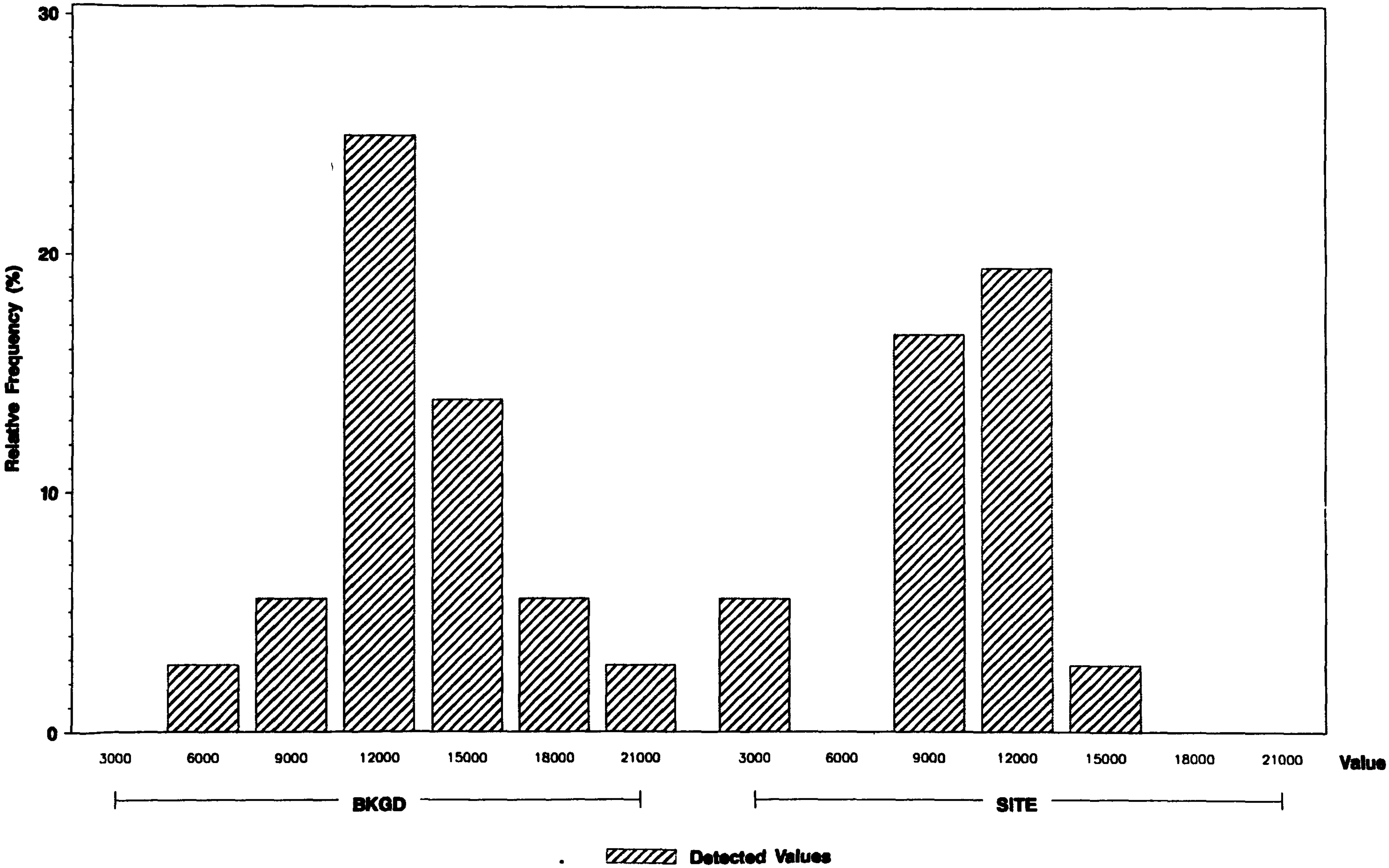
ANALYTE = URANIUM – 238



Background vs IHSS 203 Frequency Histogram

ALUMINUM (mg/Kg) in Surface Soils (0–10 inches)

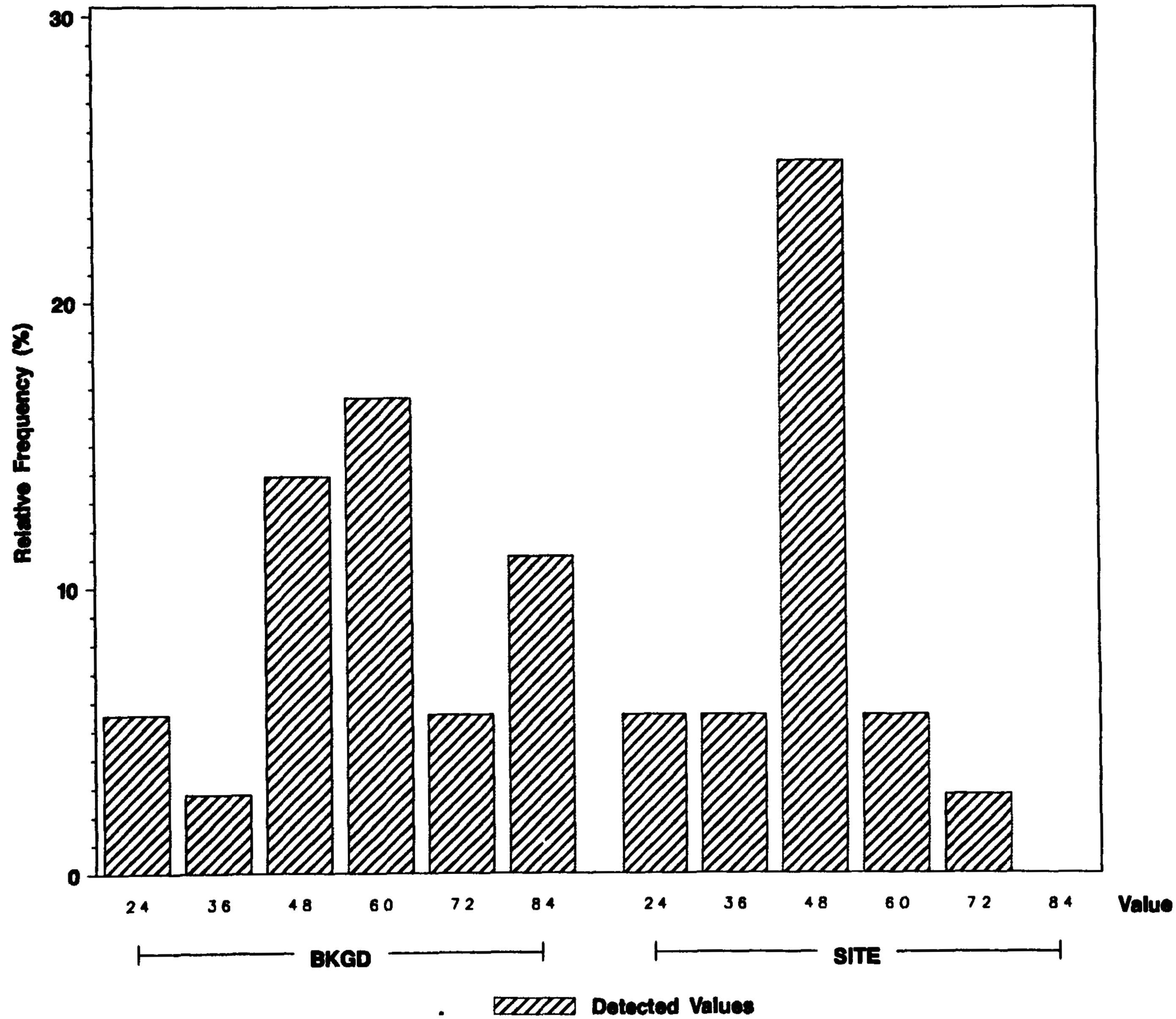
ANALYTE=ALUMINUM



Background vs IHSS 203 Frequency Histogram

ARSENIC (mg/Kg) in Surface Soils (0–10 Inches)

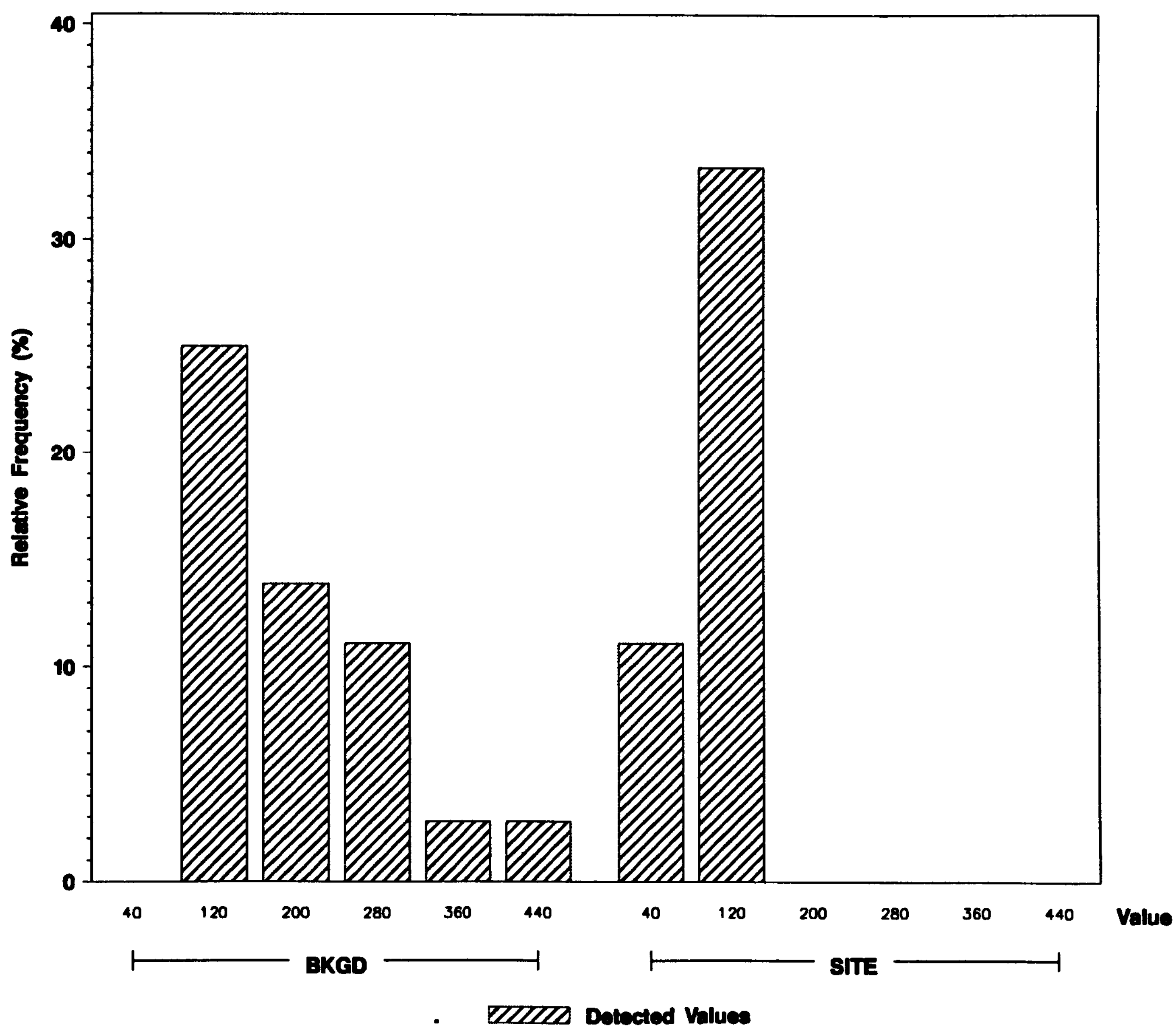
ANALYTE=ARSENIC



Background vs IHSS 203 Frequency Histogram

BARIUM (mg/Kg) In Surface Soils (0–10 Inches)

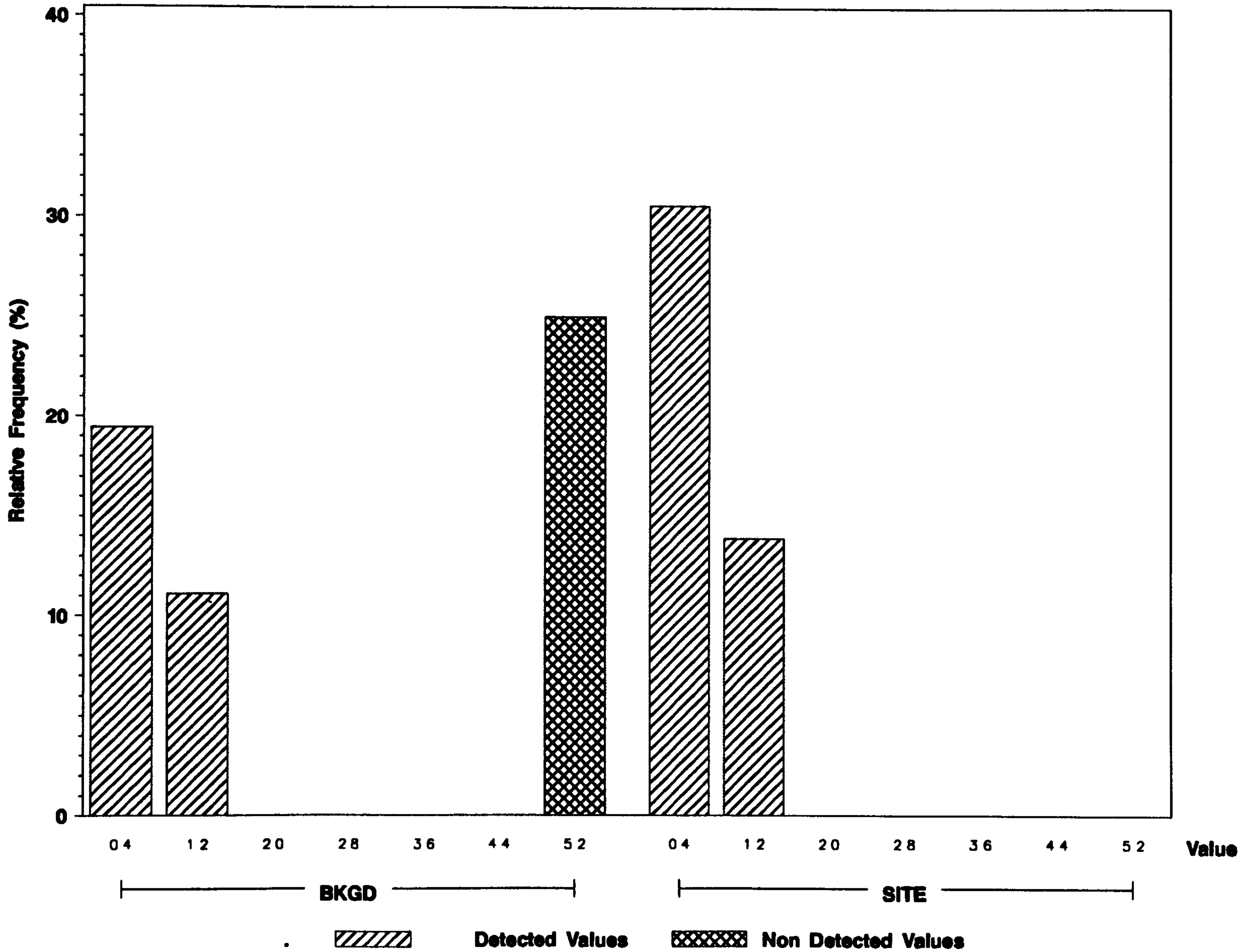
ANALYTE=BARIUM



Background vs IHSS 203 Frequency Histogram

BERYLLIUM (mg/Kg) in Surface Soils (0–10 inches)

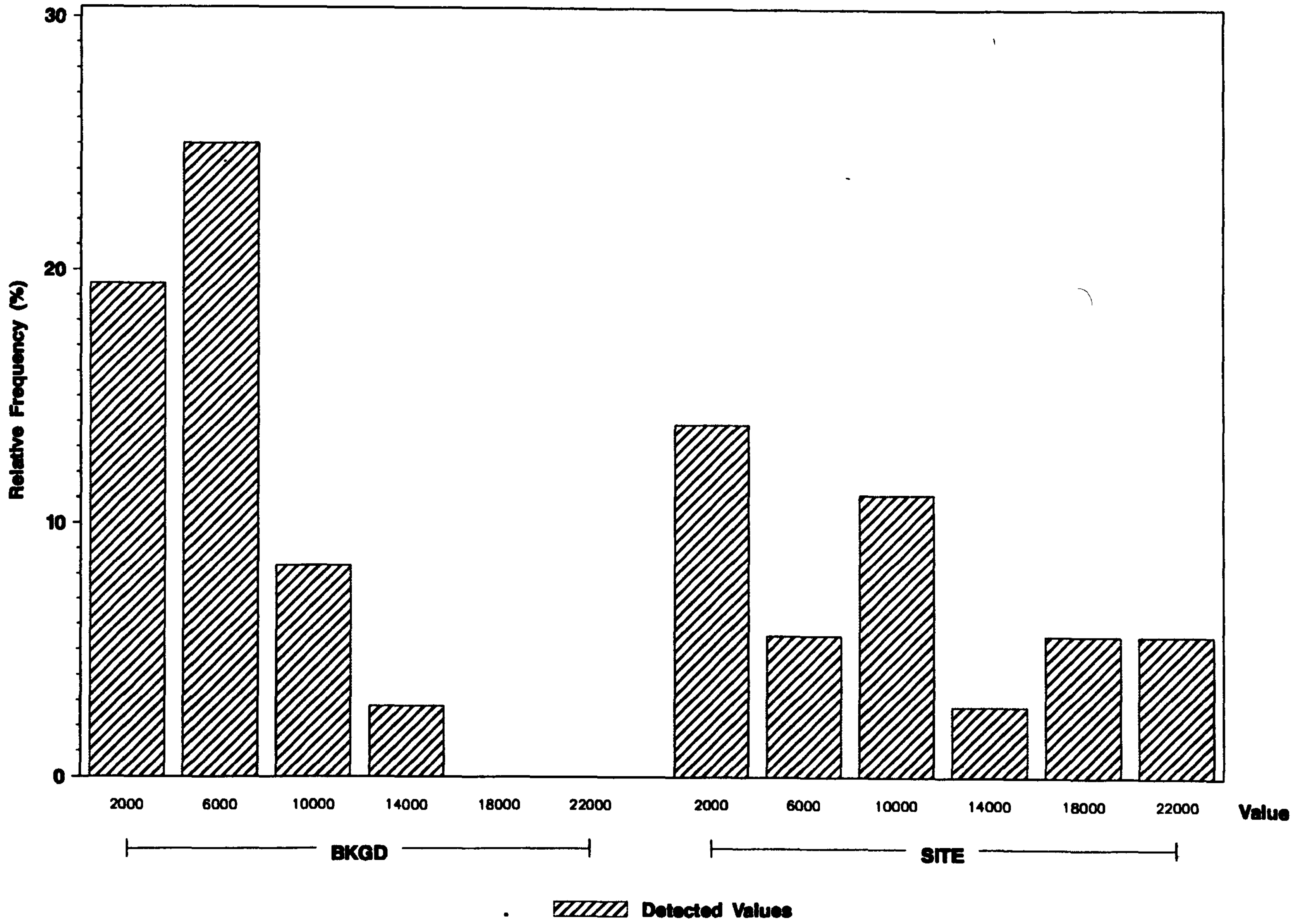
ANALYTE=BERYLLIUM



Background vs IHSS 203 Frequency Histogram

CALCIUM (mg/Kg) in Surface Soils (0 – 10 inches)

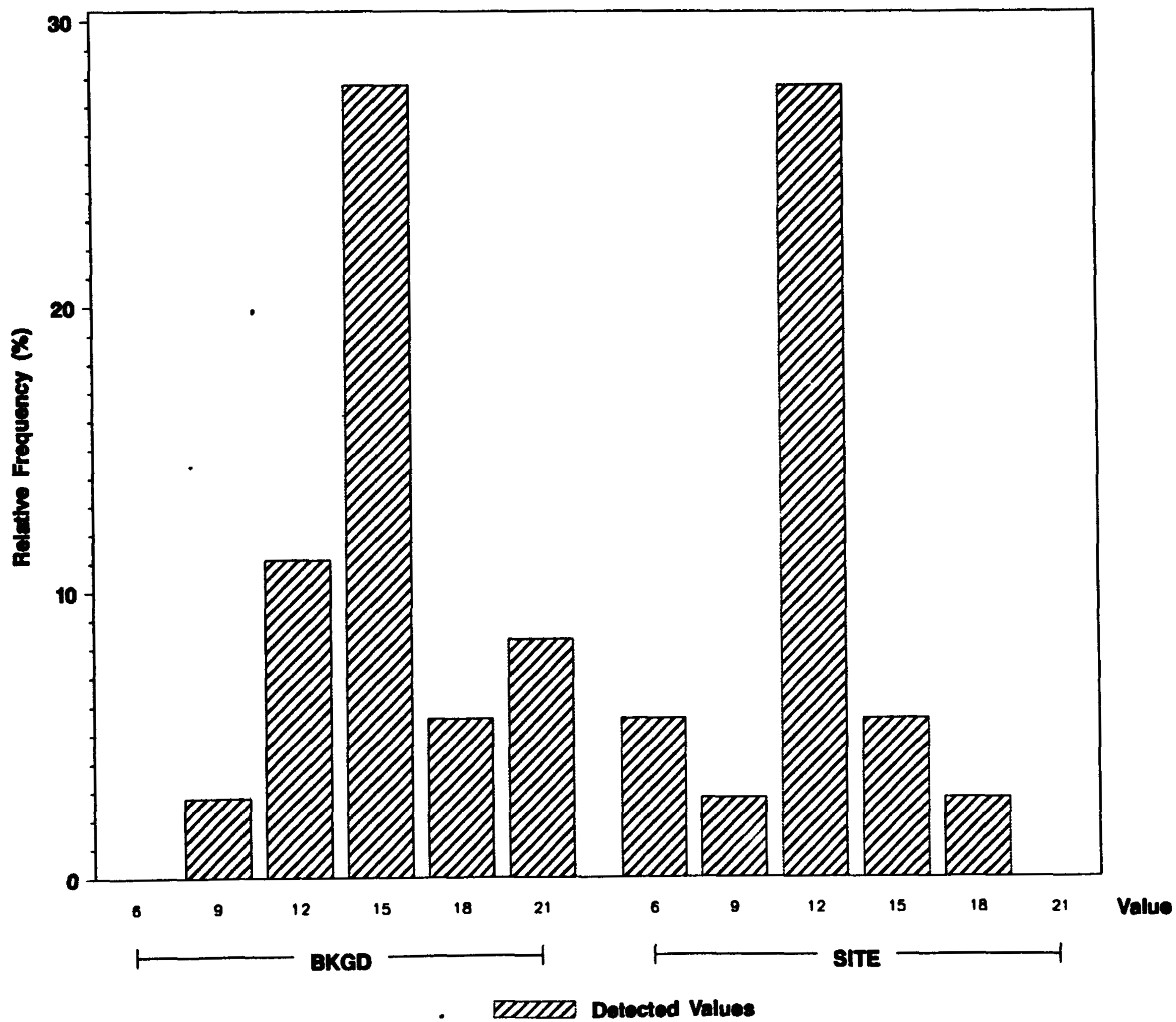
ANALYTE = CALCIUM



Background vs IHSS 203 Frequency Histogram

CHROMIUM (mg/Kg) In Surface Soils (0–10 Inches)

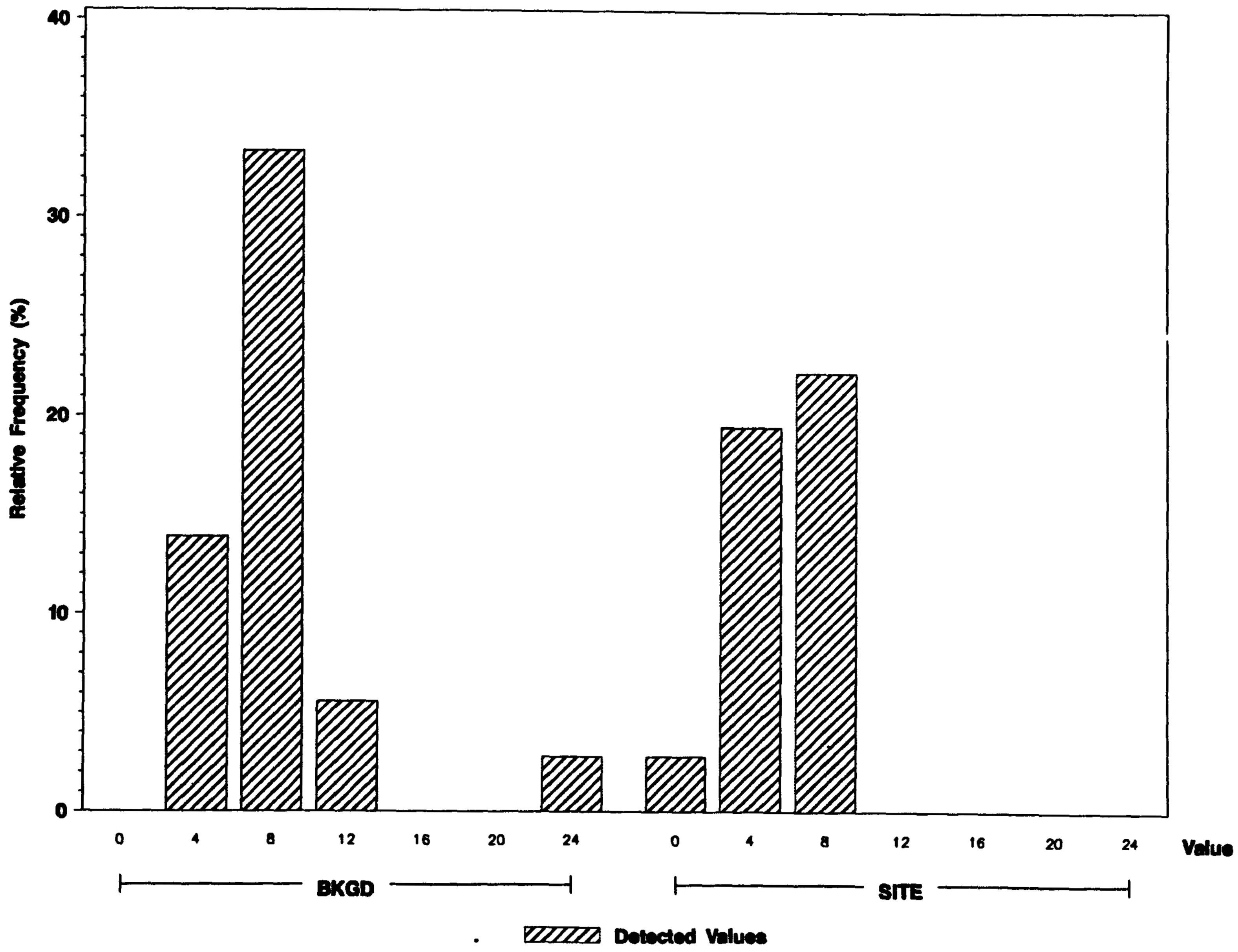
ANALYTE=CHROMIUM



Background vs IHSS 203 Frequency Histogram

COBALT (mg/Kg) in Surface Soils (0 – 10 Inches)

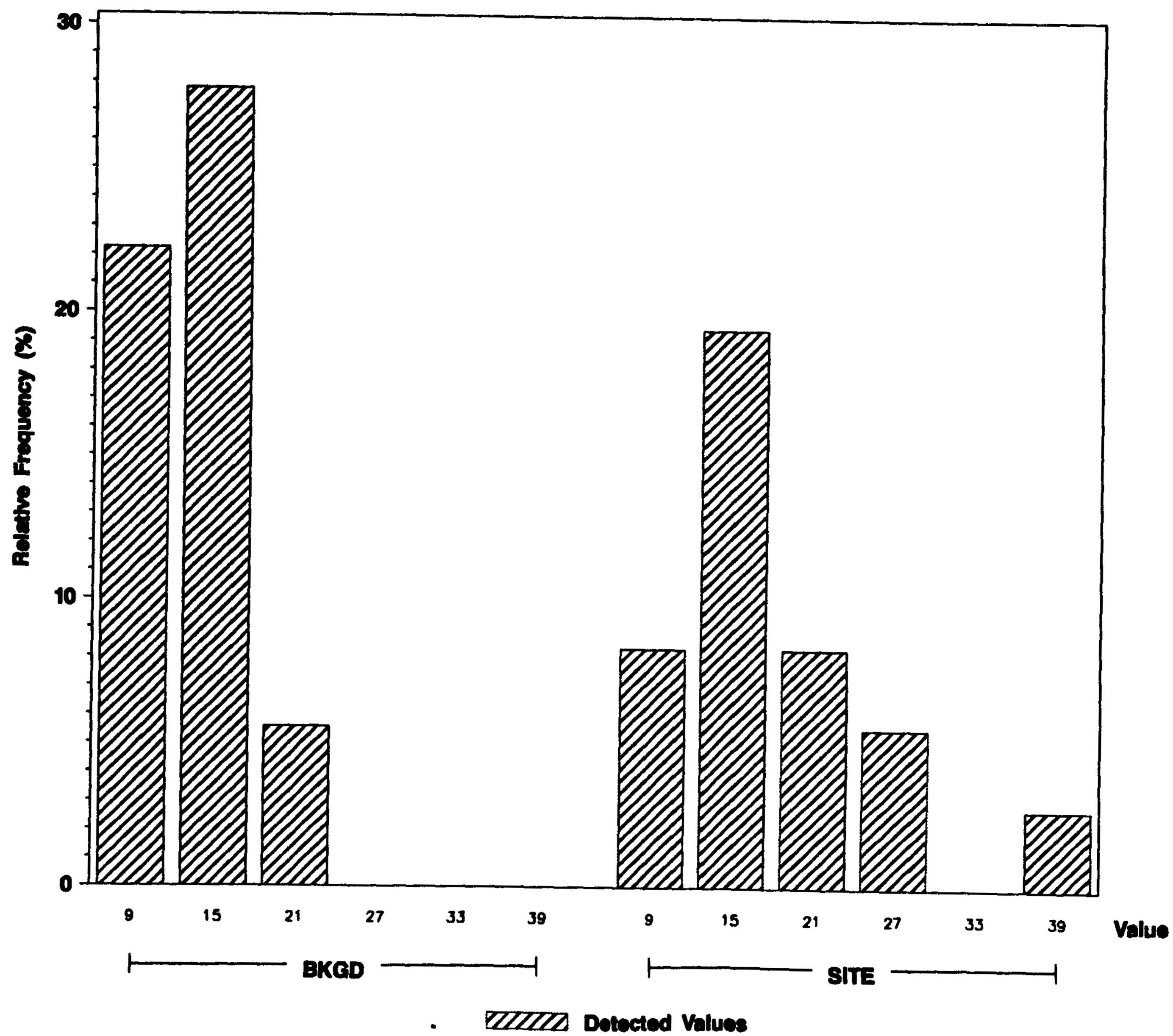
ANALYTE = COBALT



Background vs IHSS 203 Frequency Histogram

COPPER (mg/Kg) in Surface Soils (0–10 inches)

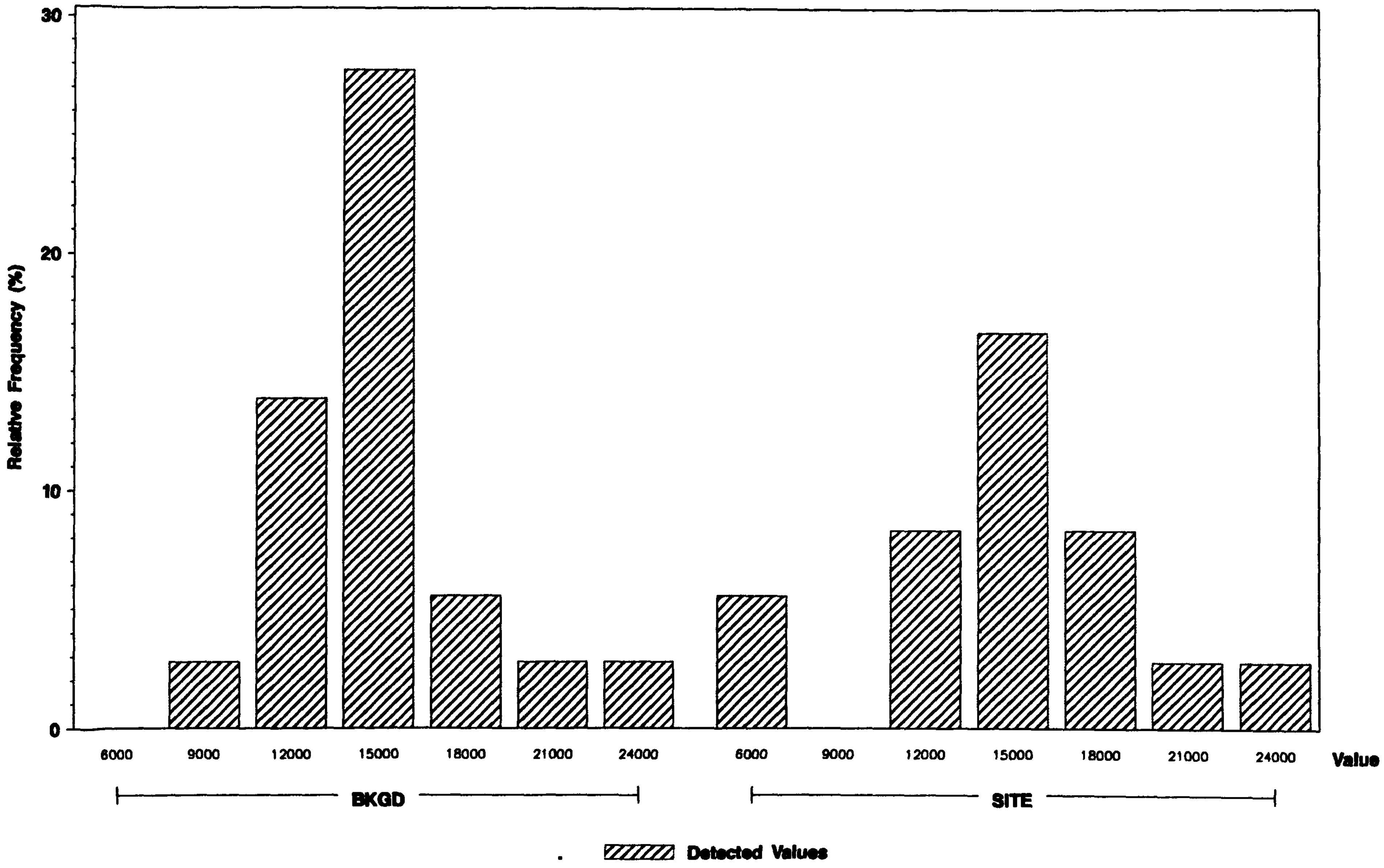
ANALYTE=COPPER



Background vs IHSS 203 Frequency Histogram

IRON (mg/Kg) In Surface Soils (0–10 Inches)

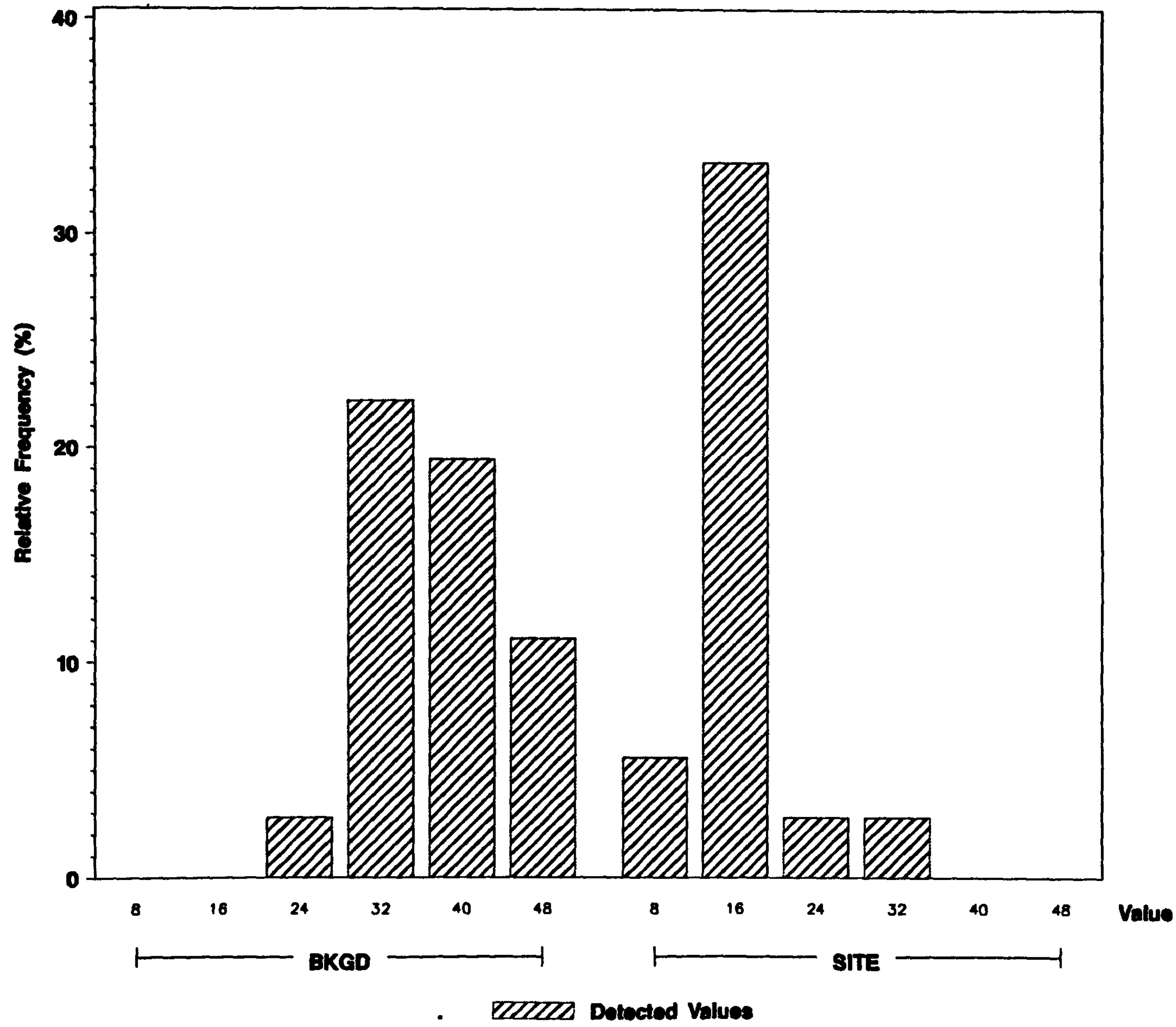
ANALYTE=IRON



Background vs IHSS 203 Frequency Histogram

LEAD (mg/Kg) in Surface Soils (0–10 inches)

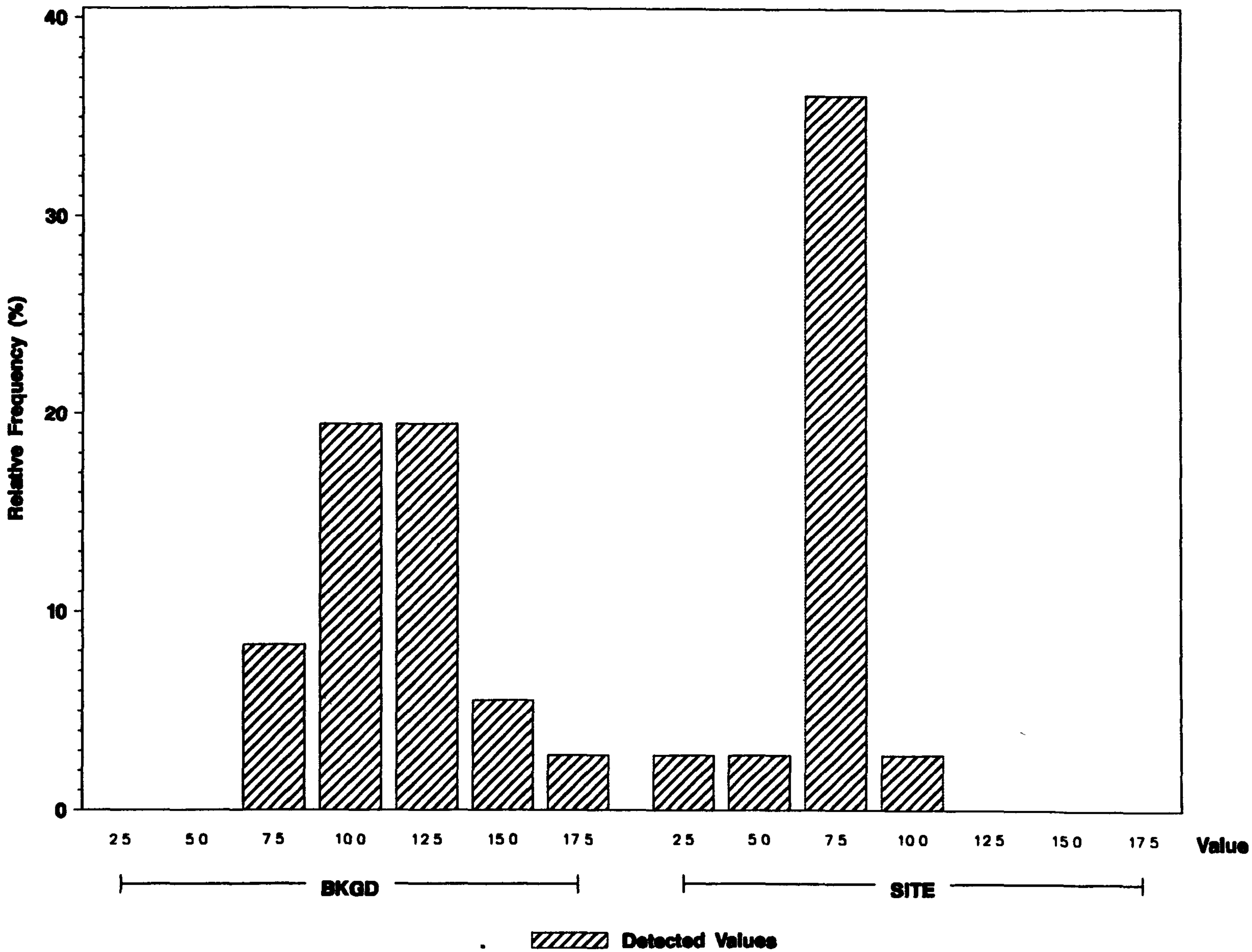
ANALYTE=LEAD



Background vs IHSS 203 Frequency Histogram

LITHIUM (mg/Kg) in Surface Soils (0 – 10 Inches)

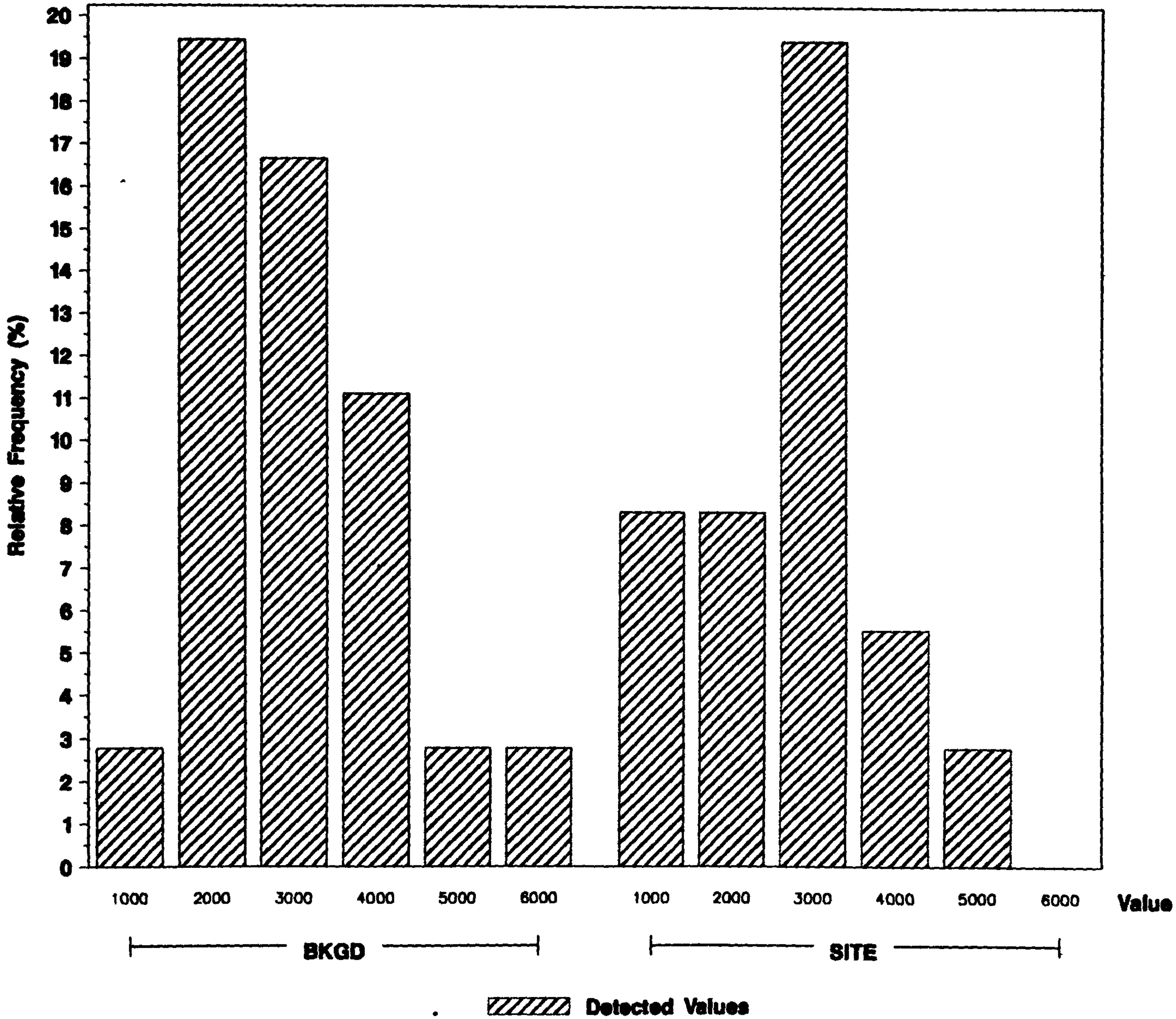
ANALYTE = LITHIUM



Background vs IHSS 203 Frequency Histogram

MAGNESIUM (mg/Kg) in Surface Soils (0–10 inches)

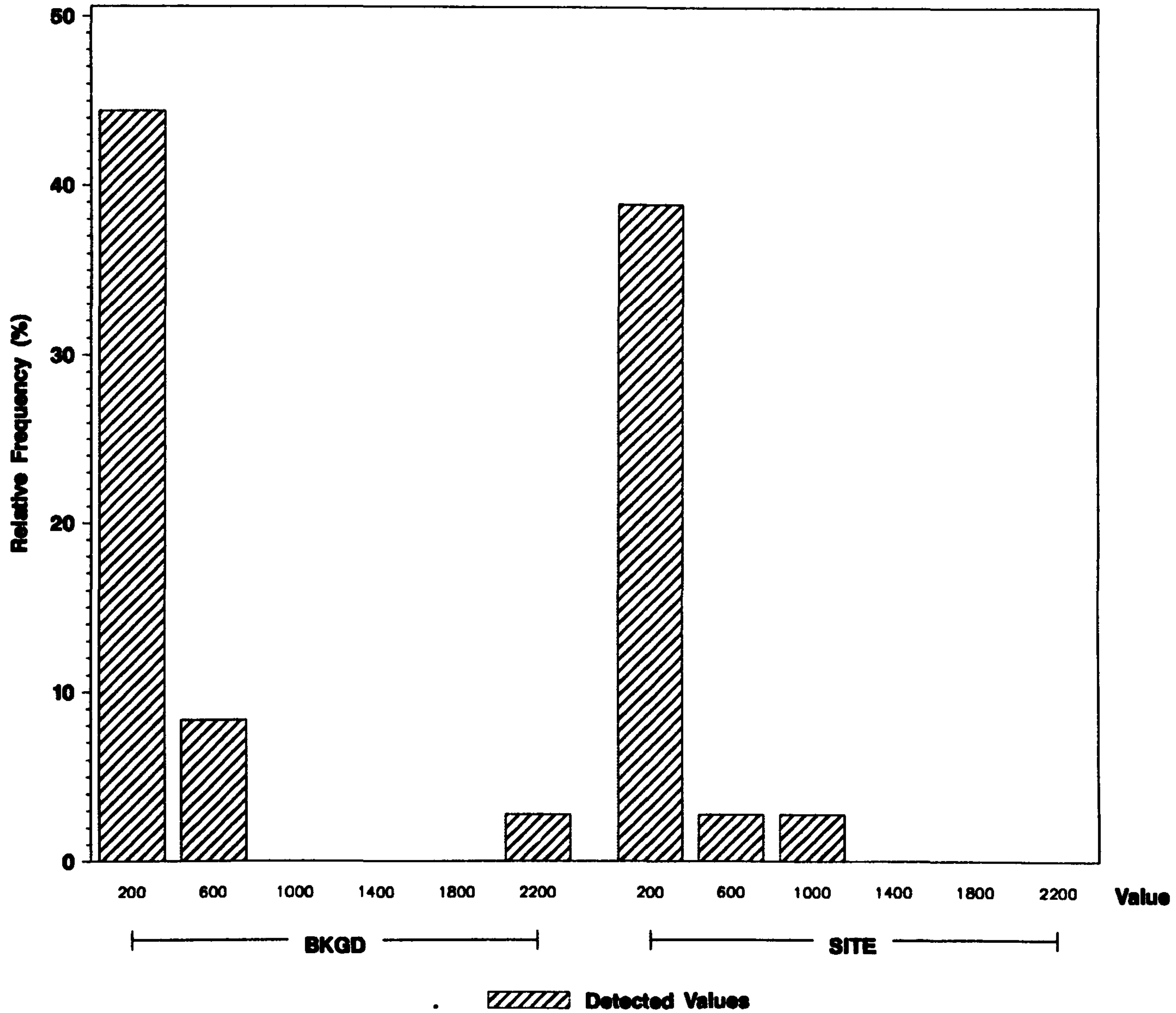
ANALYTE=MAGNESIUM



Background vs IHSS 203 Frequency Histogram

MANGANESE (mg/Kg) in Surface Soils (0–10 Inches)

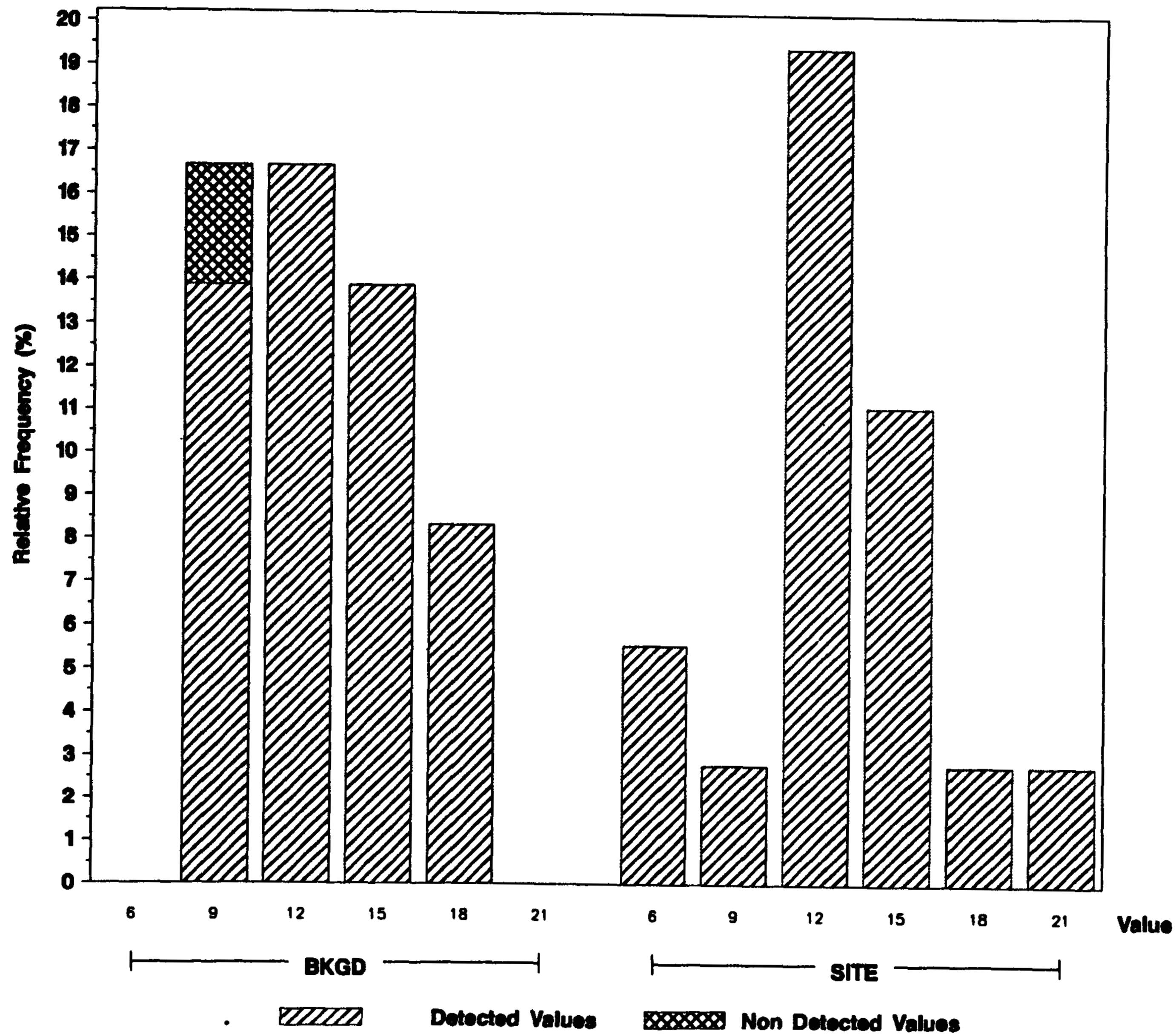
ANALYTE=MANGANESE



Background vs IHSS 203 Frequency Histogram

NICKEL (mg/Kg) In Surface Soils (0–10 Inches)

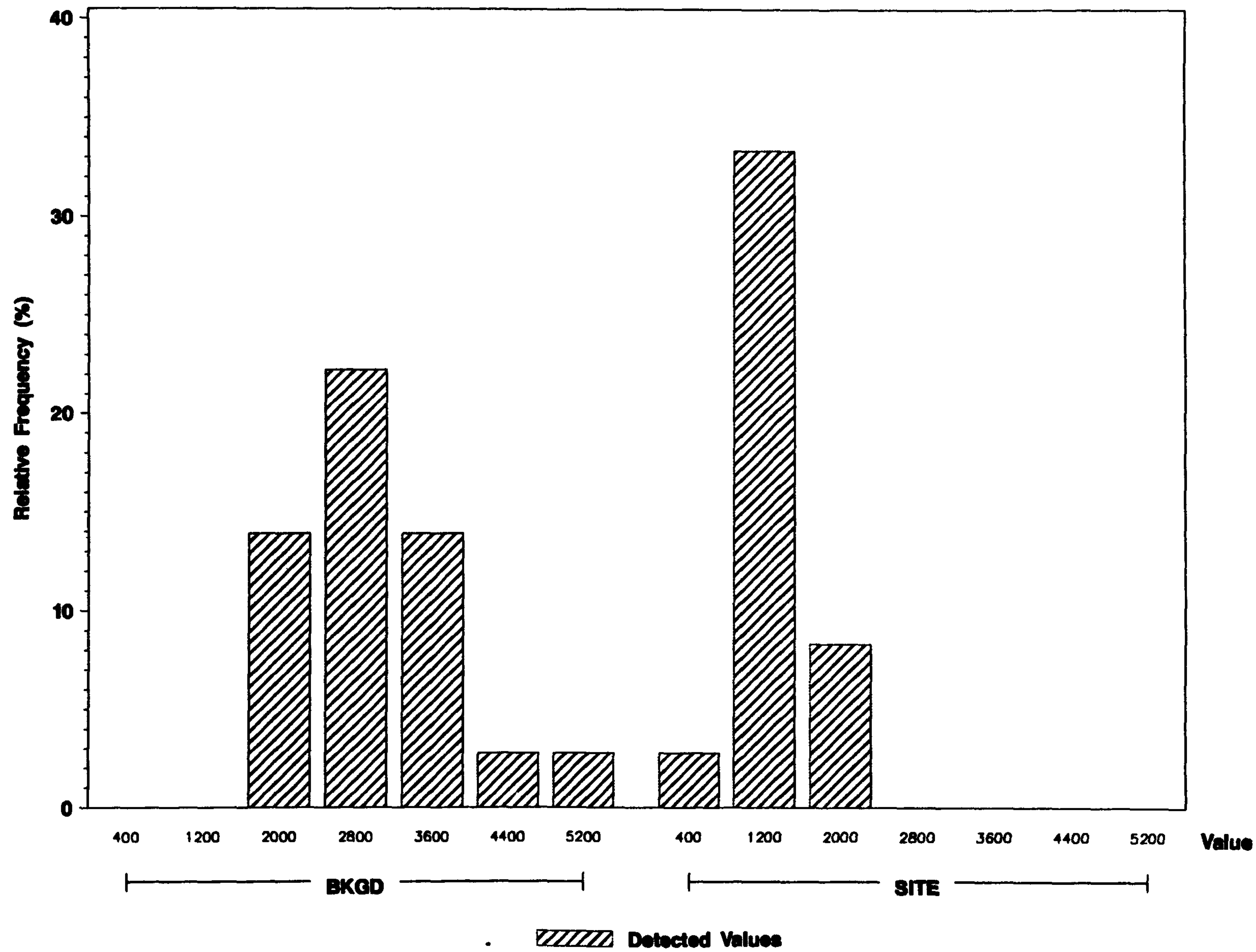
ANALYTE=NICKEL



Background vs IHSS 203 Frequency Histogram

POTASSIUM (mg/Kg) In Surface Soils (0–10 Inches)

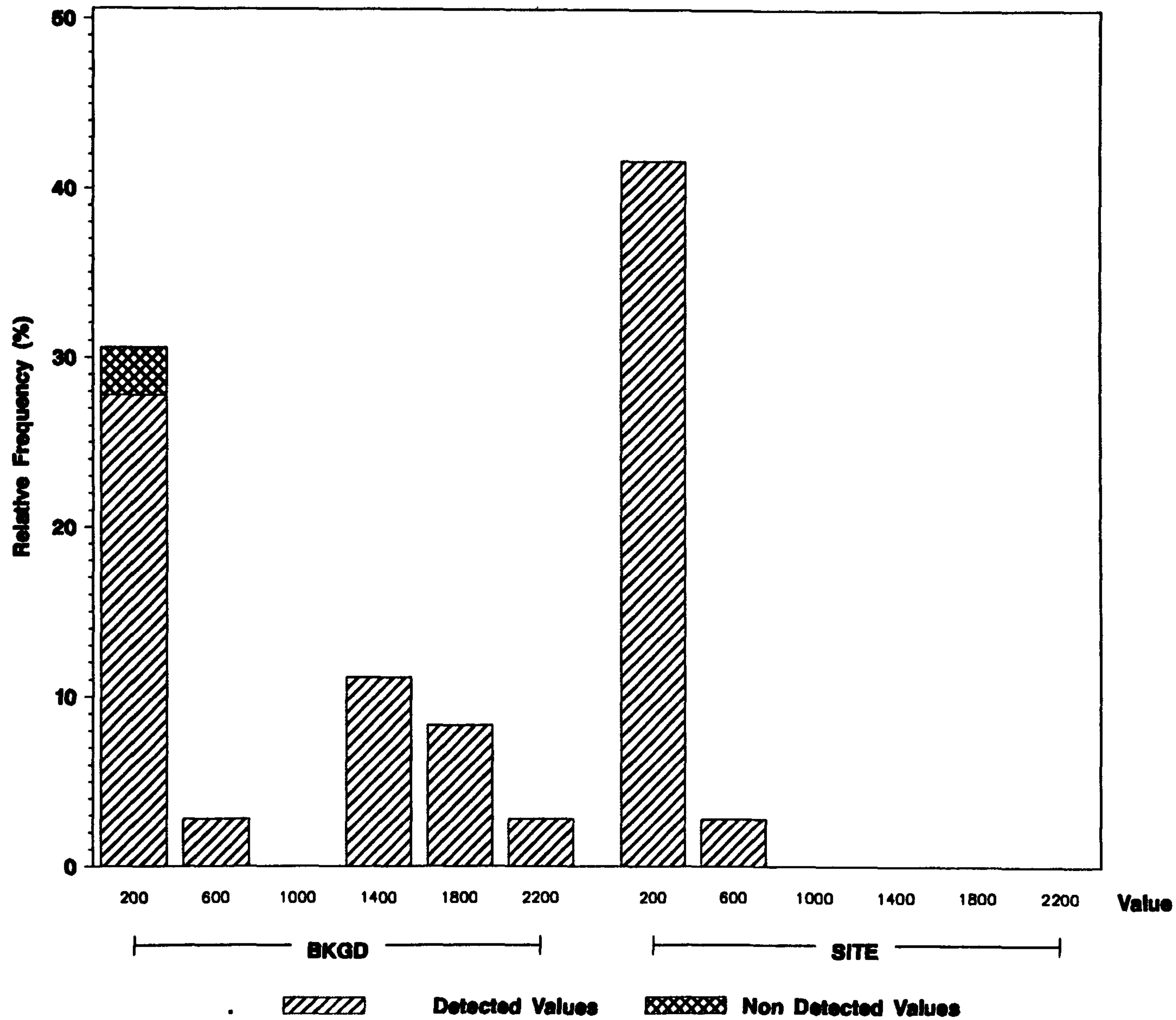
ANALYTE=POTASSIUM



Background vs IHSS 203 Frequency Histogram

SILICON (mg/Kg) in Surface Soils (0–10 inches)

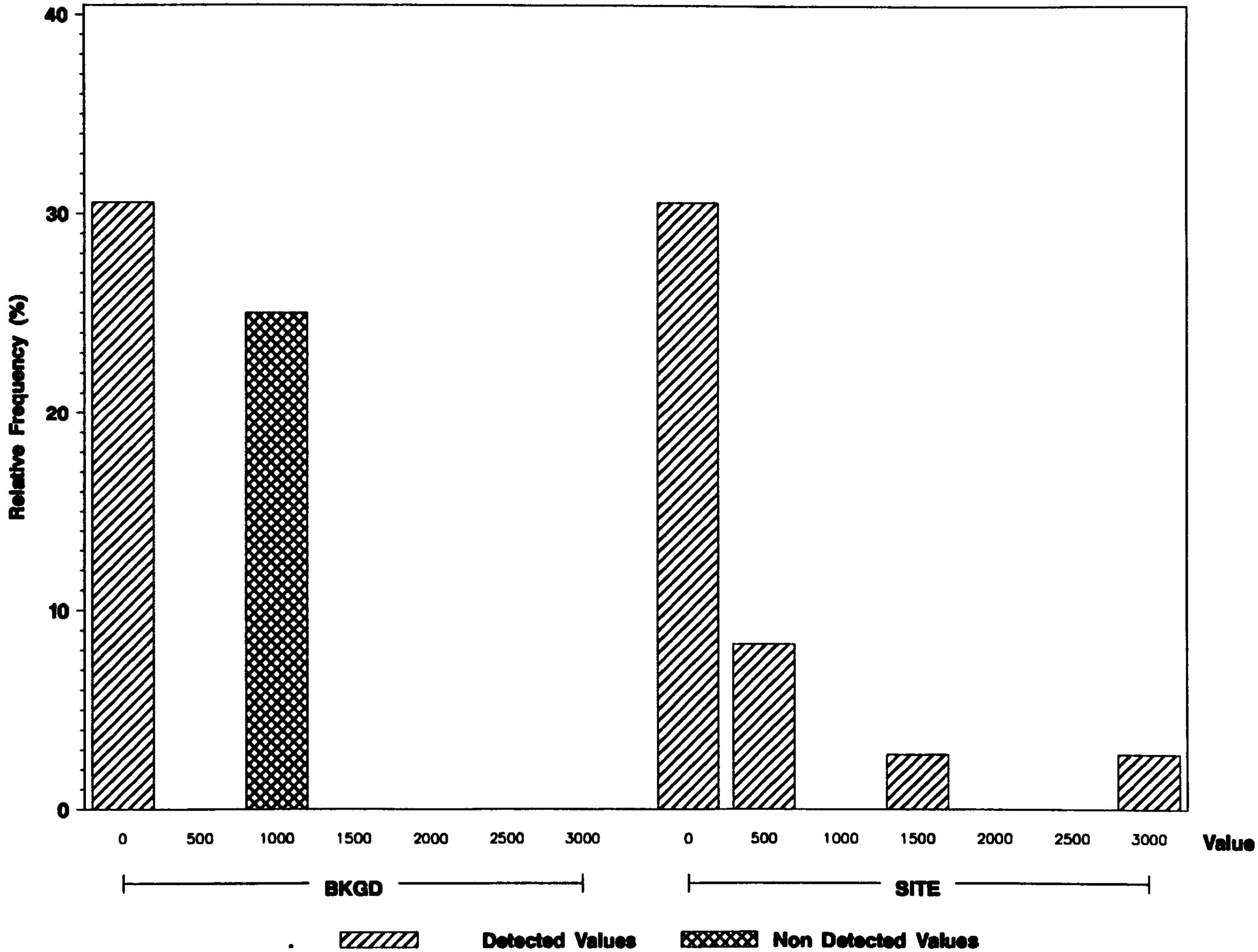
ANALYTE=SILICON



Background vs IHSS 203 Frequency Histogram

SODIUM (mg/Kg) in Surface Soils (0 – 10 inches)

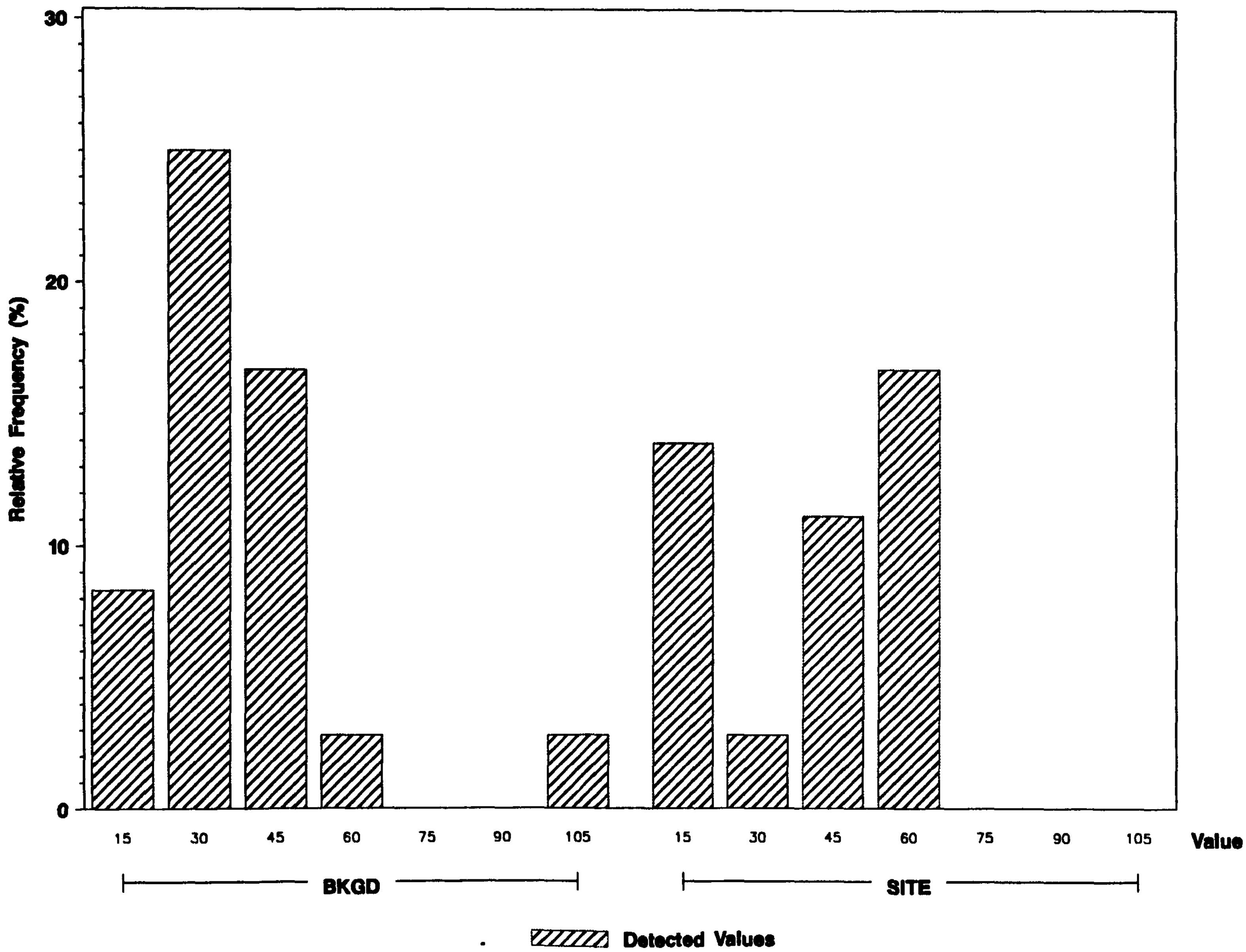
ANALYTE=SODIUM



Background vs IHSS 203 Frequency Histogram

STRONTIUM (mg/Kg) in Surface Soils (0–10 Inches)

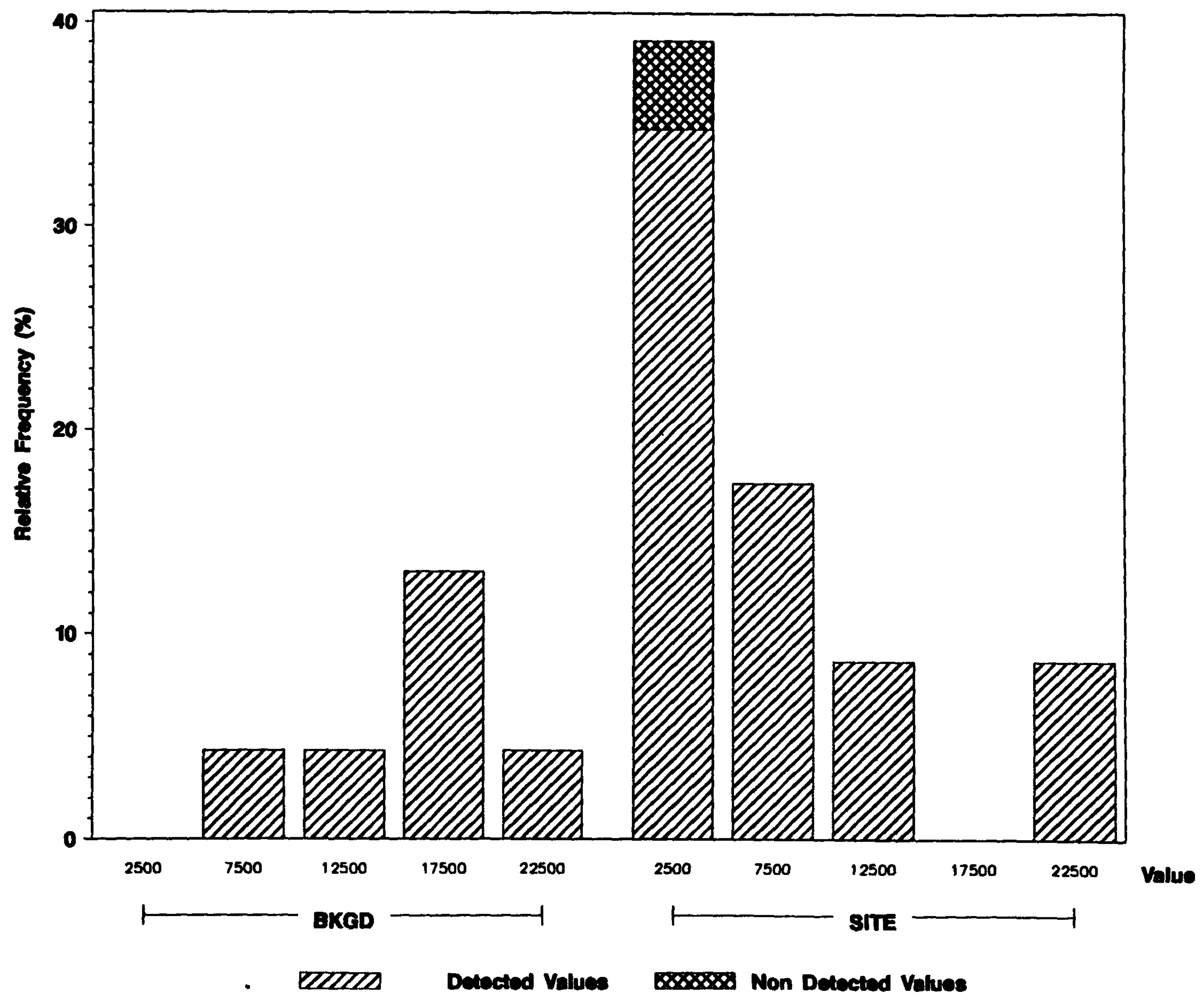
ANALYTE=STRONTIUM



Background vs IHSS 203 Frequency Histogram

TOTAL ORGANIC CARBON (mg/Kg) In Surface Soils (0-10 Inches)

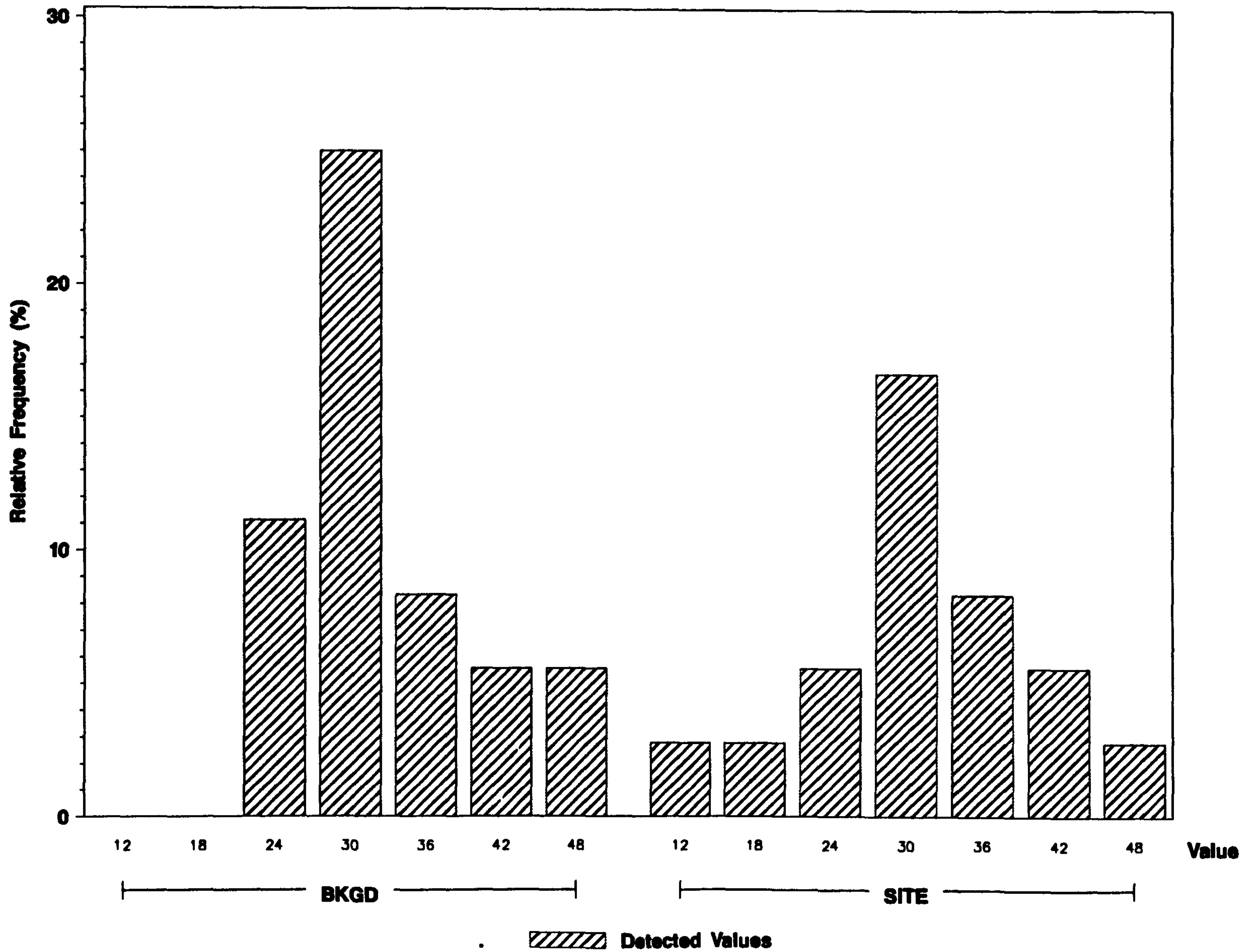
ANALYTE=TOTAL ORGANIC CARBON



Background vs IHSS 203 Frequency Histogram

VANADIUM (mg/Kg) in Surface Soils (0–10 inches)

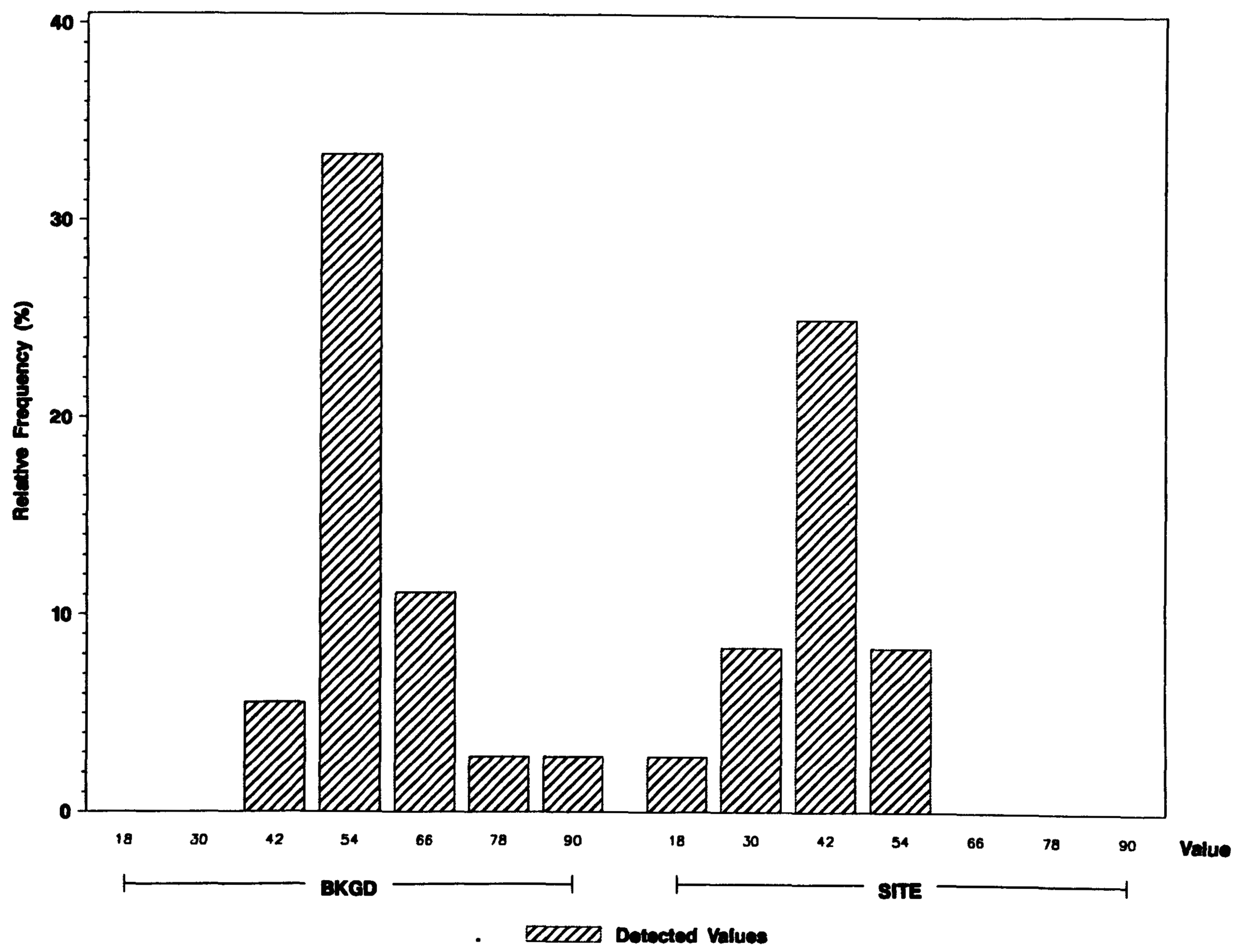
ANALYTE=VANADIUM



Background vs IHSS 203 Frequency Histogram

ZINC (mg/Kg) In Surface Soils (0–10 Inches)

ANALYTE=ZINC



Surface Soils

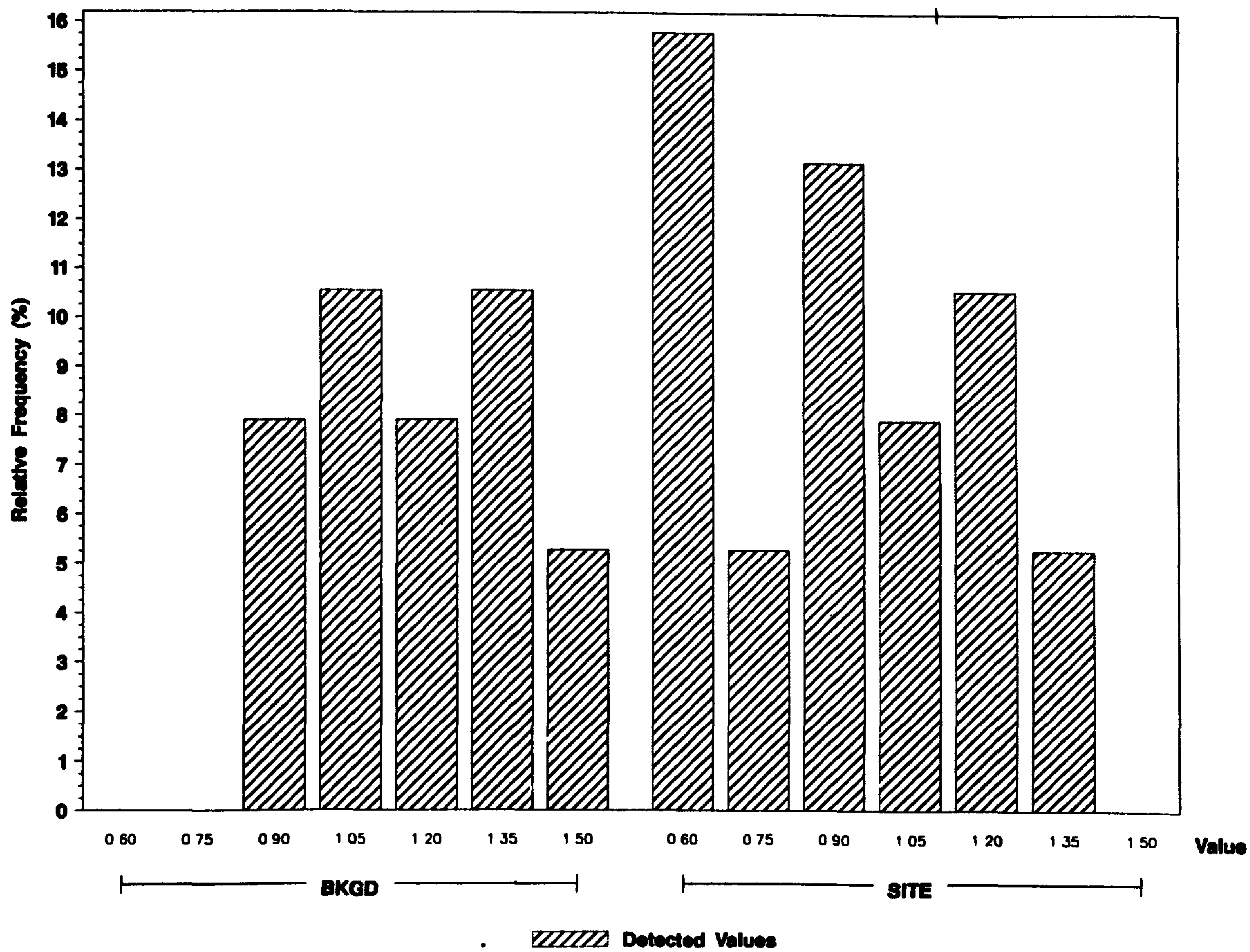
Background vs. IHSS 114

(0 to 2 inches)

Background vs IHSS 114 Frequency Histogram

URANIUM – 238 (pCi/g) in Surface Soils (0 – 2 Inches)

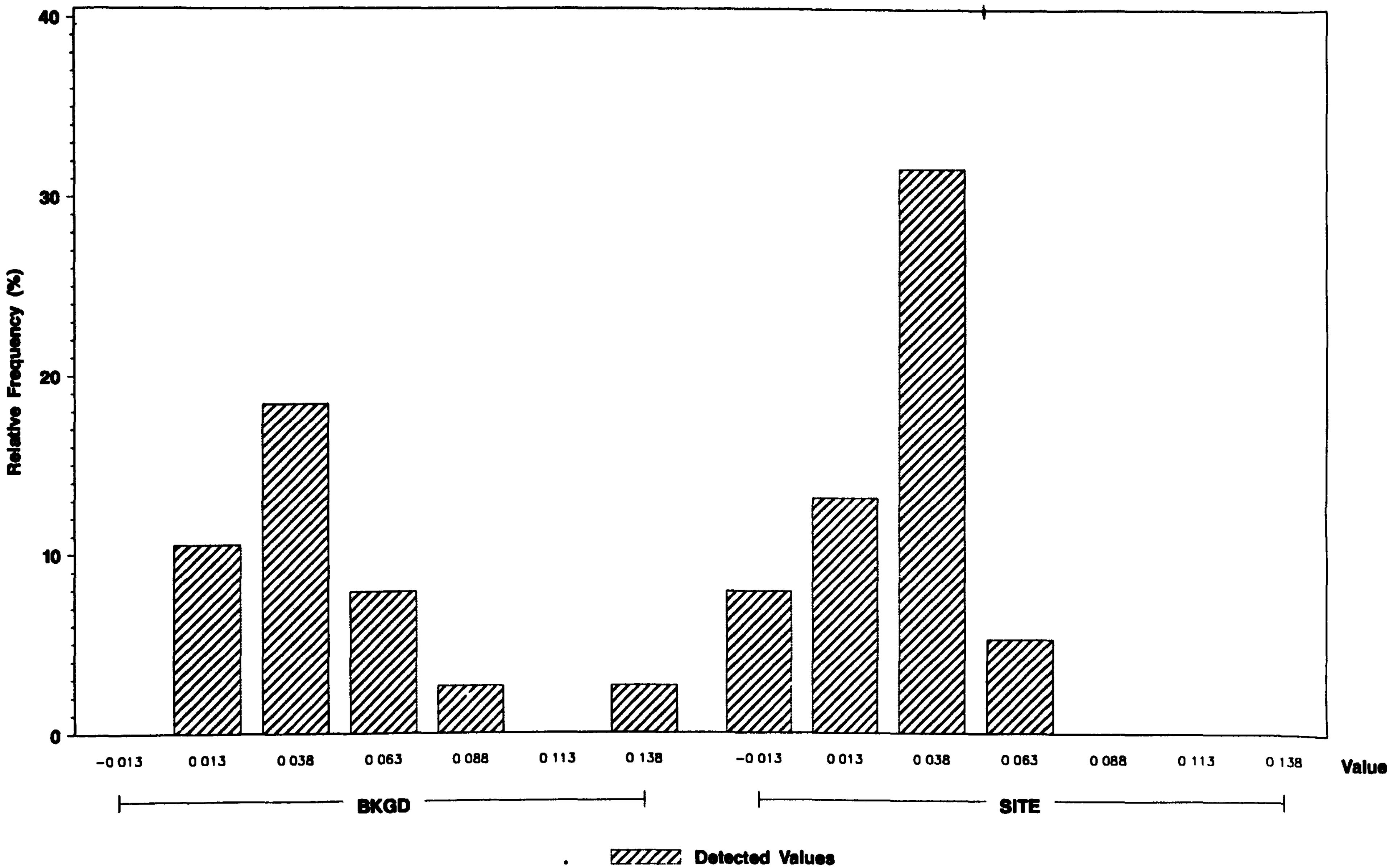
ANALYTE = URANIUM – 238



Background vs IHSS 114 Frequency Histogram

URANIUM – 235 (pCi/g) in Surface Soils (0 – 2 Inches)

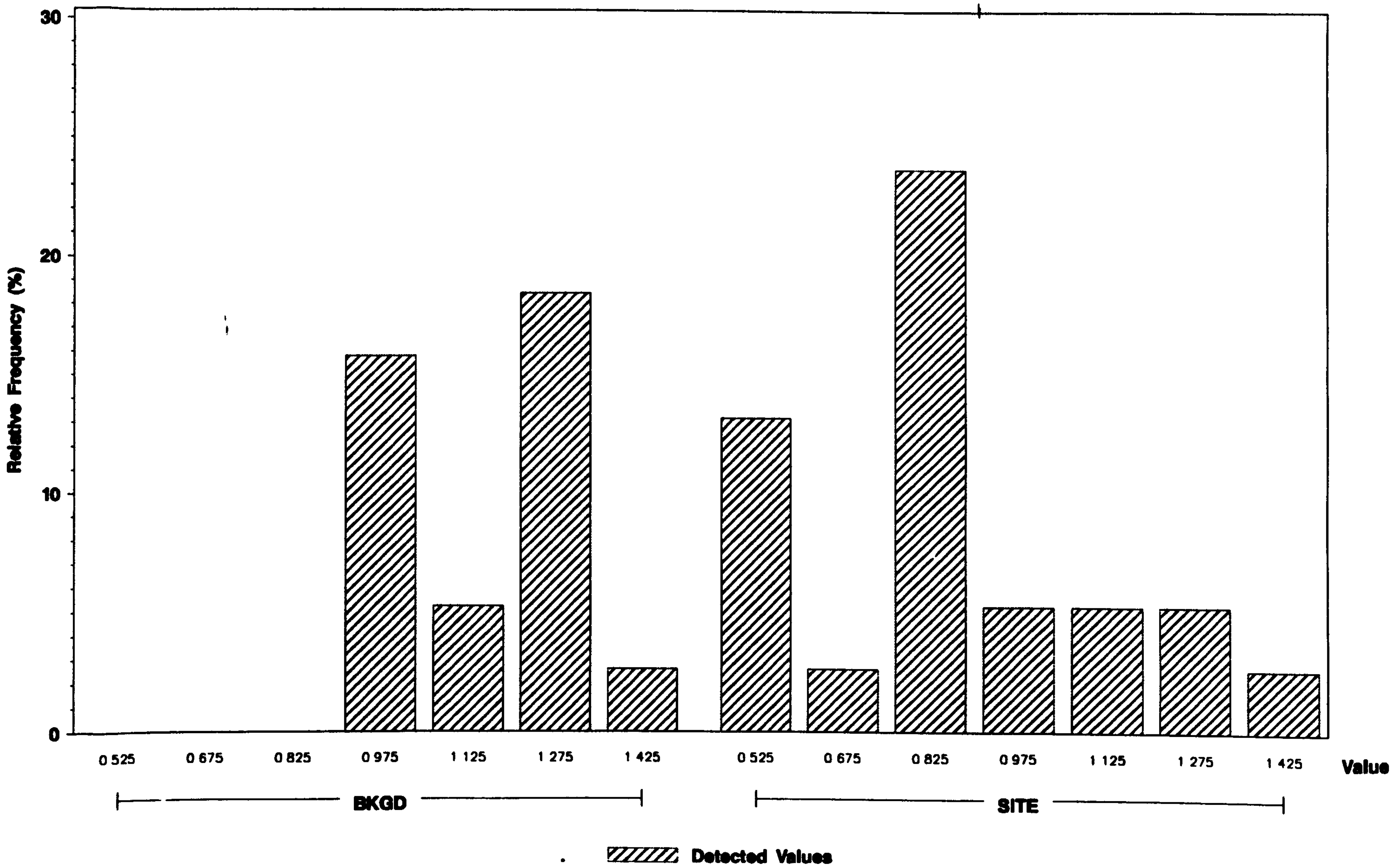
ANALYTE = URANIUM – 235



Background vs IHSS 114 Frequency Histogram

URANIUM-233,-234 (pCi/g) in Surface Soils (0-2 Inches)

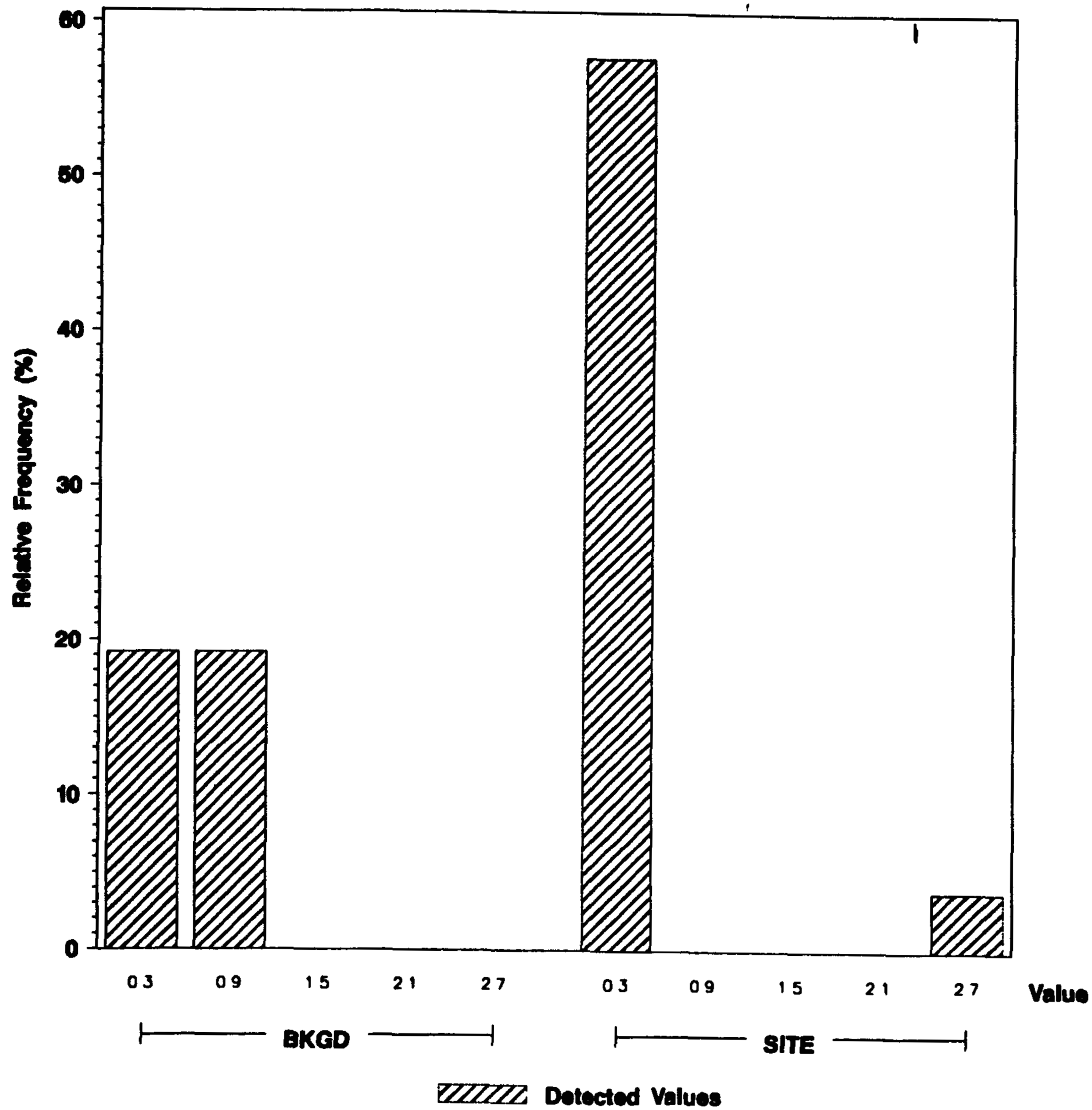
ANALYTE=URANIUM-233,-234



Background vs IHSS 114 Frequency Histogram

STRONTIUM-89,90 (pCi/g) in Surface Soils (0-2 inches)

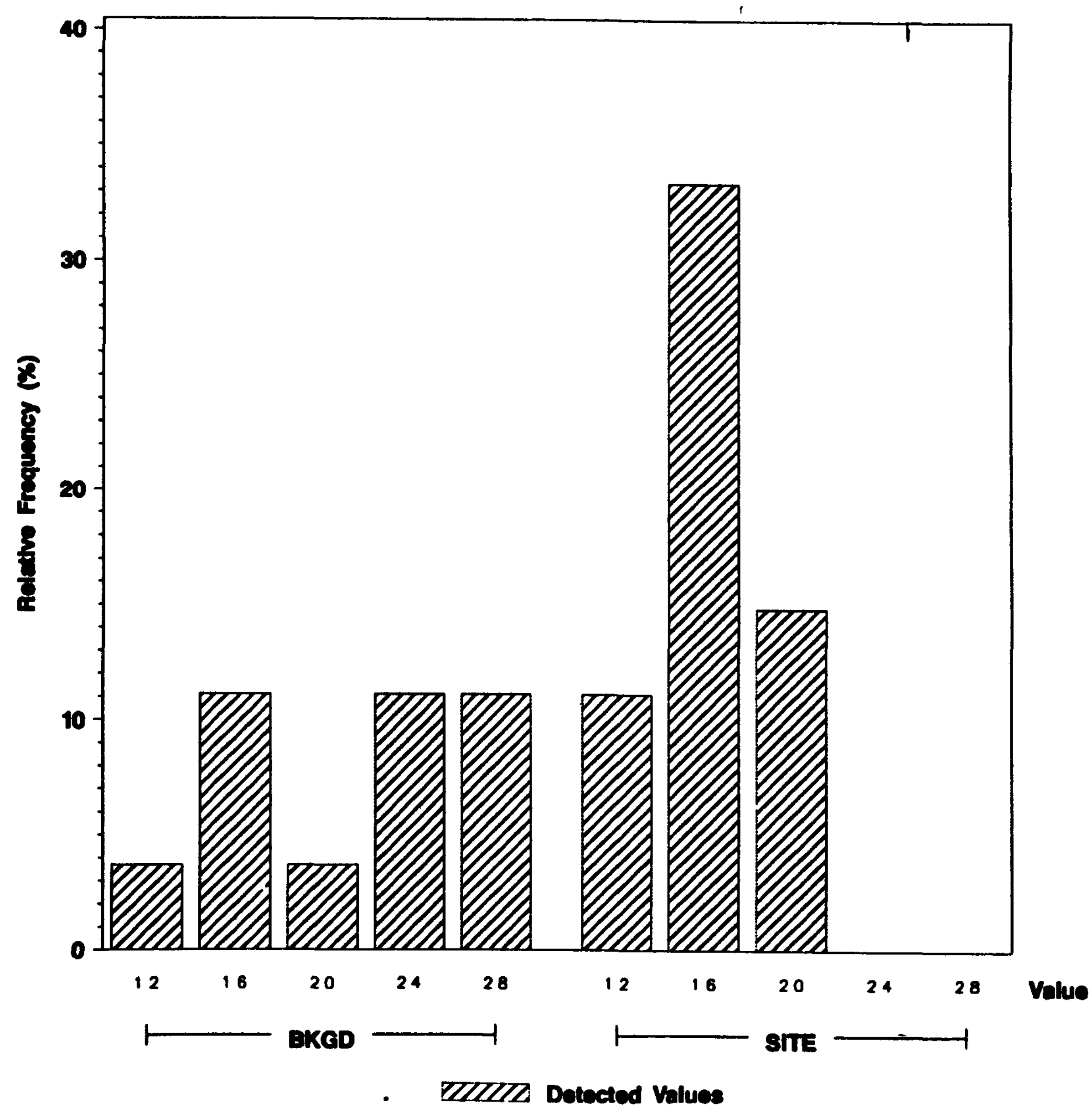
ANALYTE=STRONTIUM-89,90



Background vs IHSS 114 Frequency Histogram

RADIUM-228 (pCi/g) in Surface Soils (0-2 Inches)

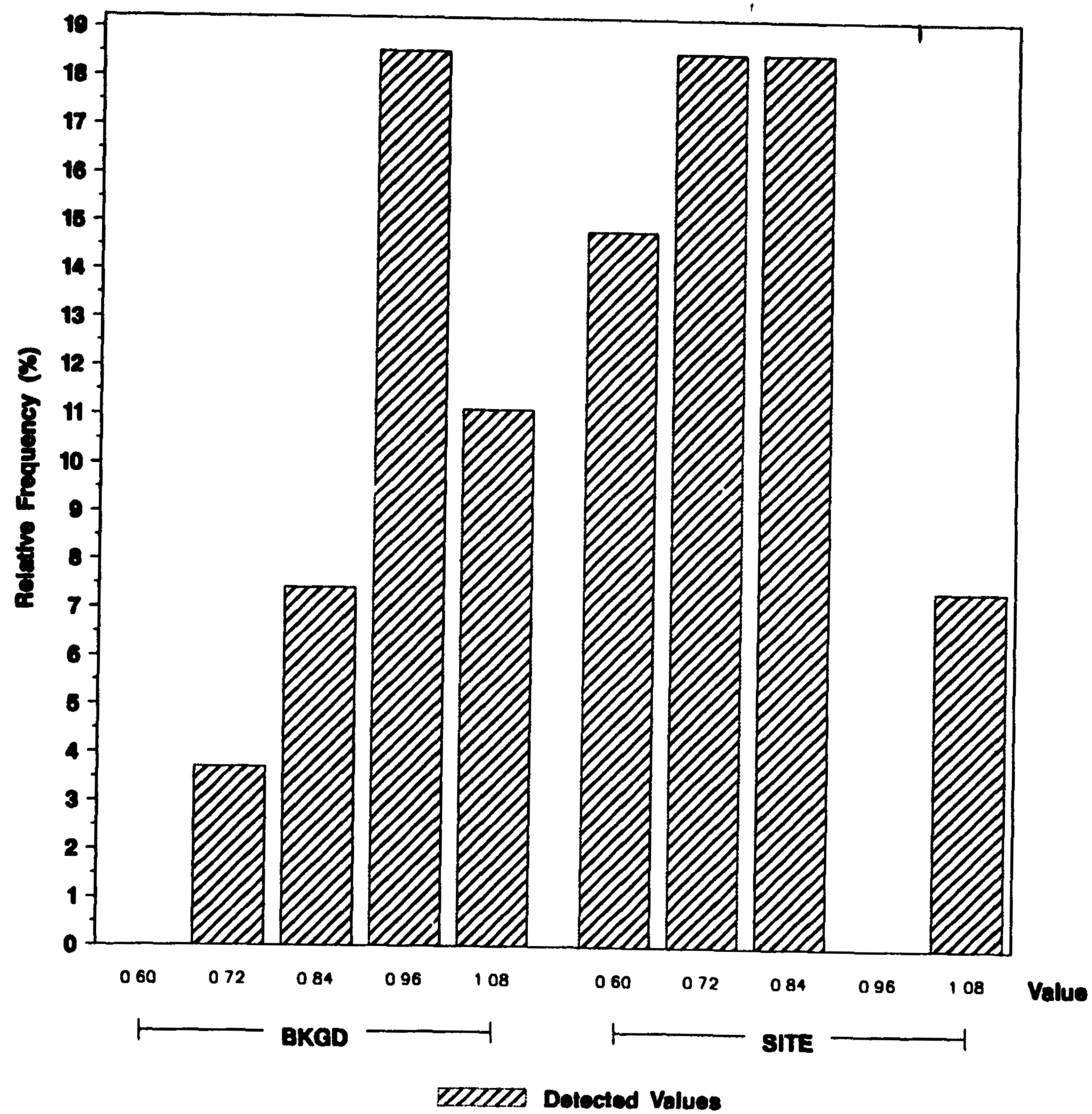
ANALYTE=RADIUM-228



Background vs IHSS 114 Frequency Histogram

RADIUM-226 (pCi/g) In Surface Soils (0-2 Inches)

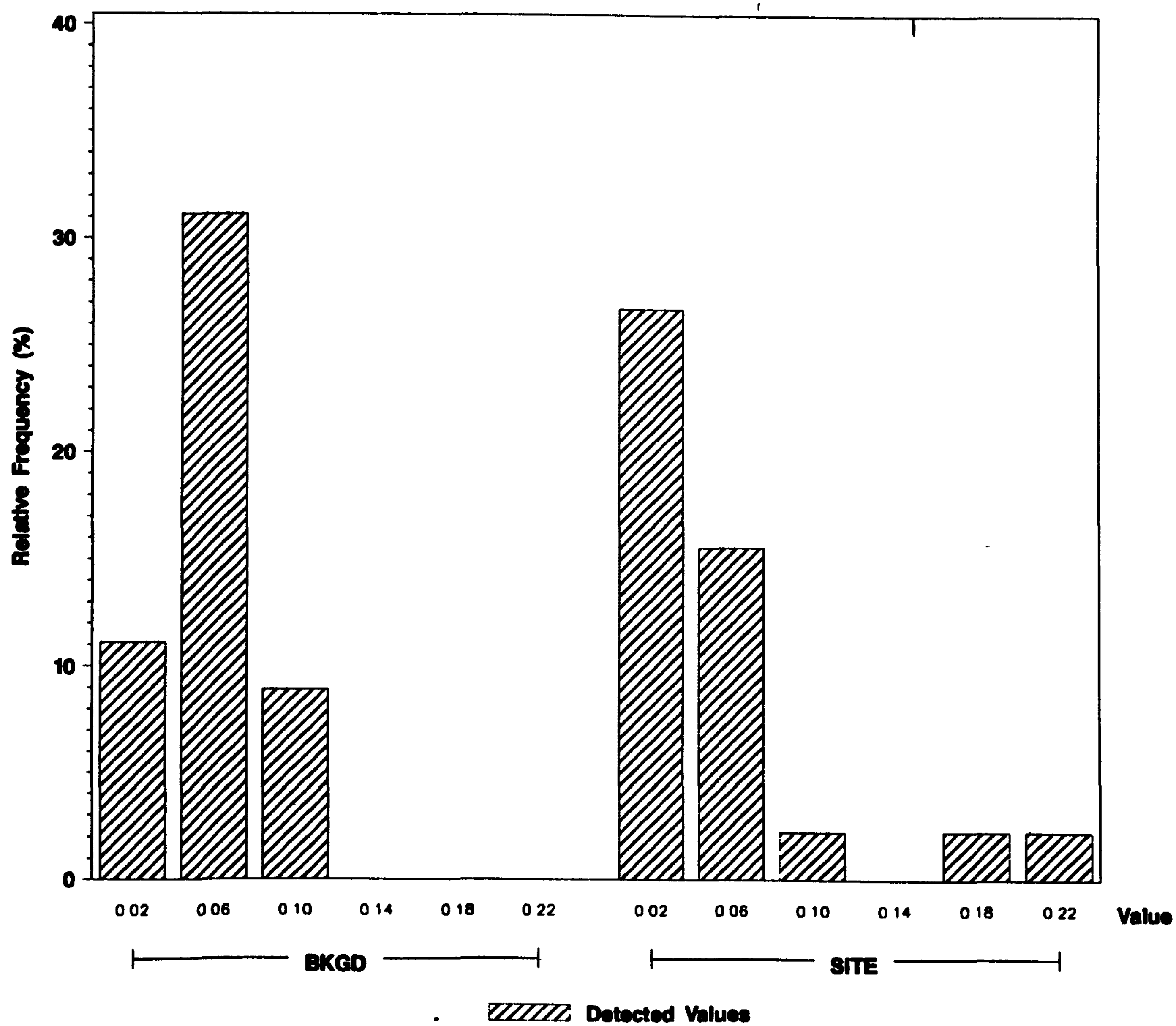
ANALYTE=RADIUM-226



Background vs IHSS 114 Frequency Histogram

PLUTONIUM – 239/240 (pCi/g) in Surface Soils (0 – 2 Inches)

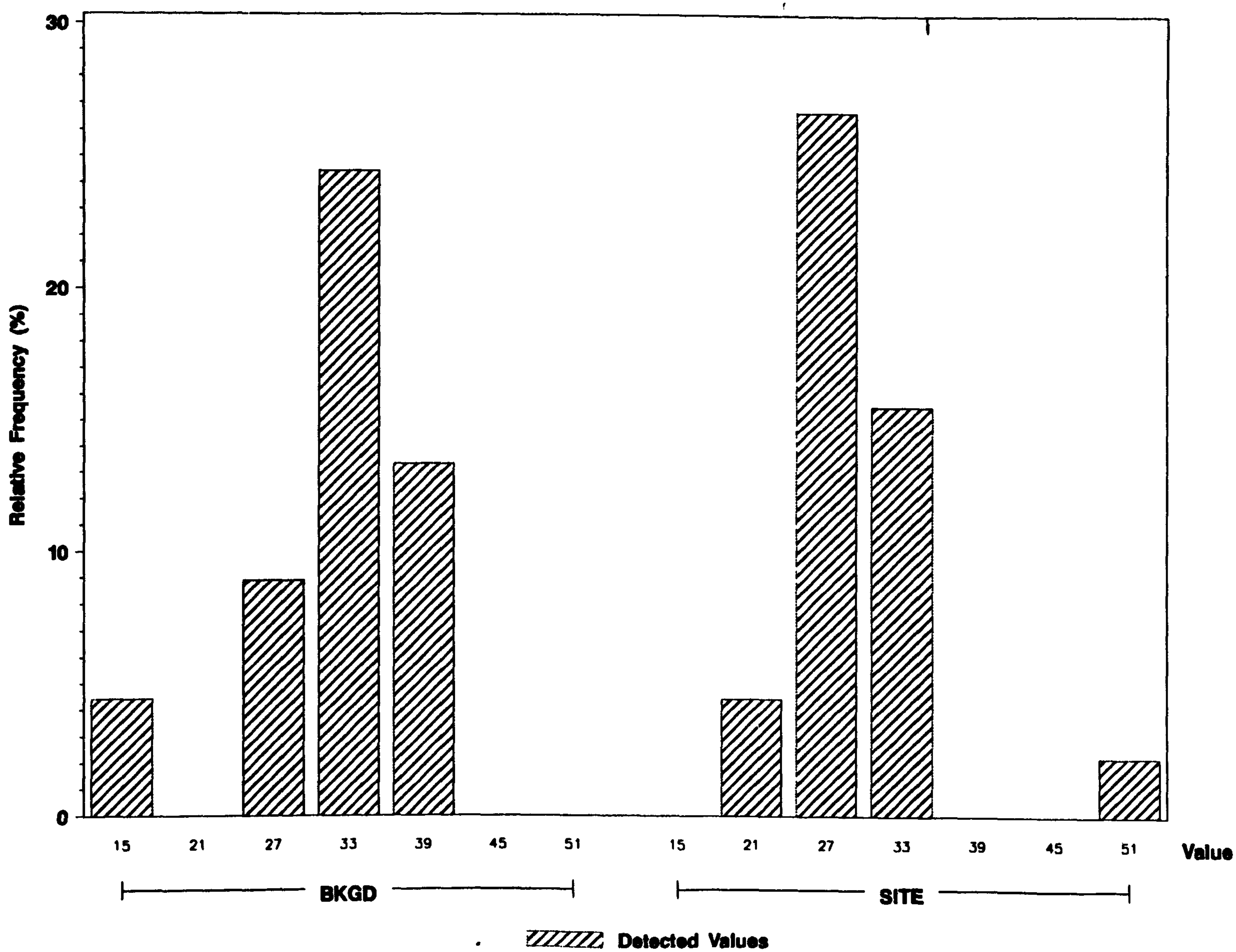
ANALYTE = PLUTONIUM – 239/240



Background vs IHSS 114 Frequency Histogram

GROSS BETA (pCi/g) In Surface Soils (0 – 2 Inches)

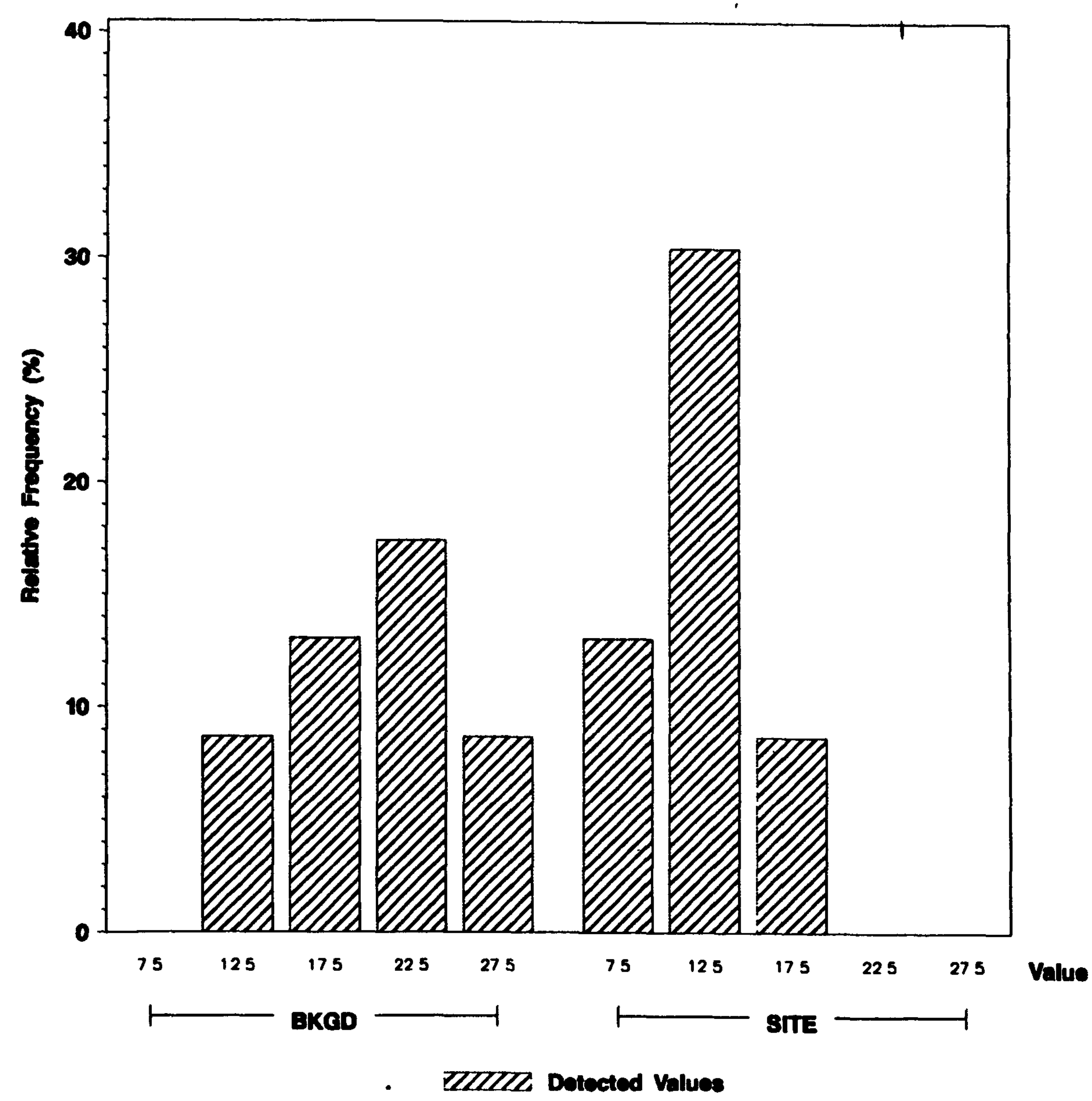
ANALYTE=GROSS BETA



Background vs IHSS 114 Frequency Histogram

GROSS ALPHA (pCi/g) in Surface Soils (0-2 inches)

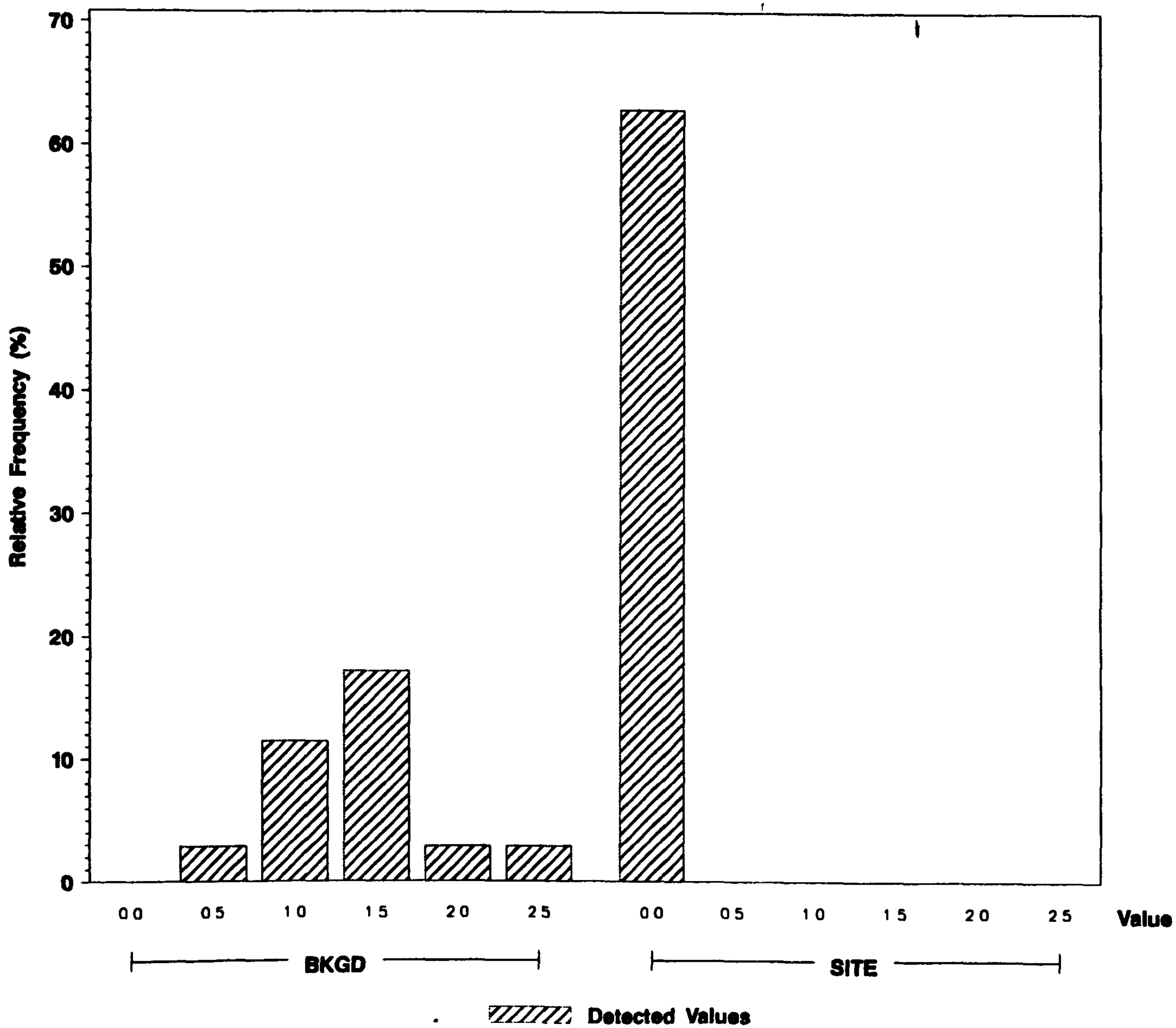
ANALYTE=GROSS ALPHA



Background vs IHSS 114 Frequency Histogram

CESIUM – 137 (pCi/g) in Surface Soils (0 – 2 inches)

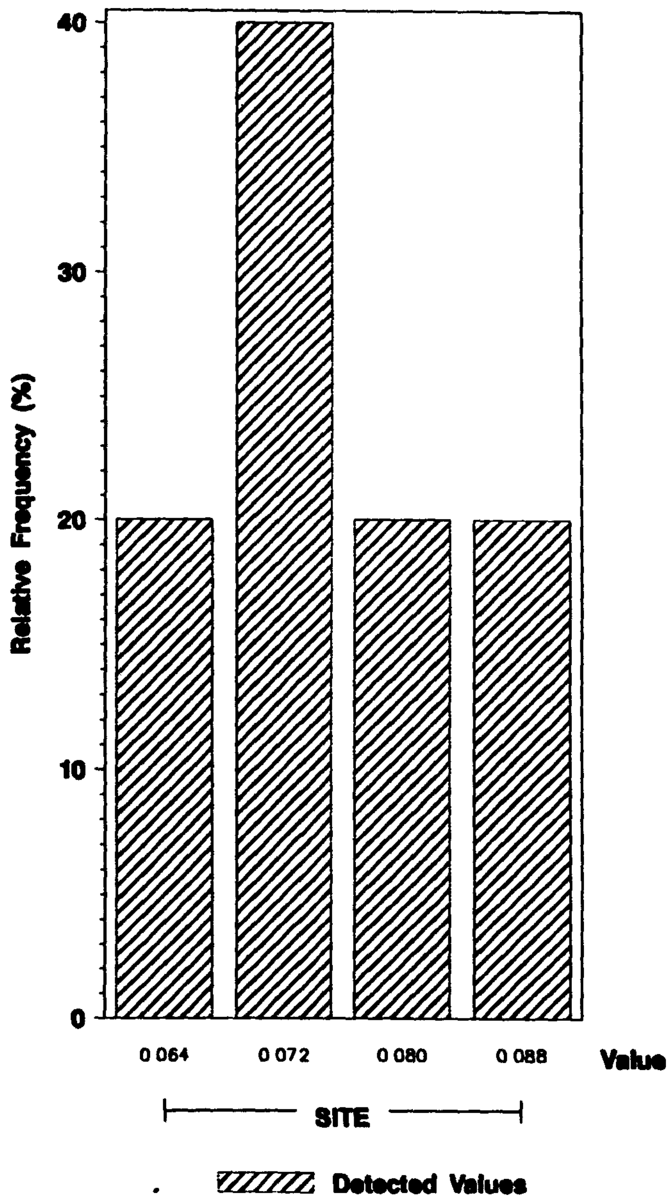
ANALYTE = CESIUM – 137



Background vs IHSS 114 Frequency Histogram

CESIUM-134 (pCi/g) in Surface Soils (0-2 Inches)

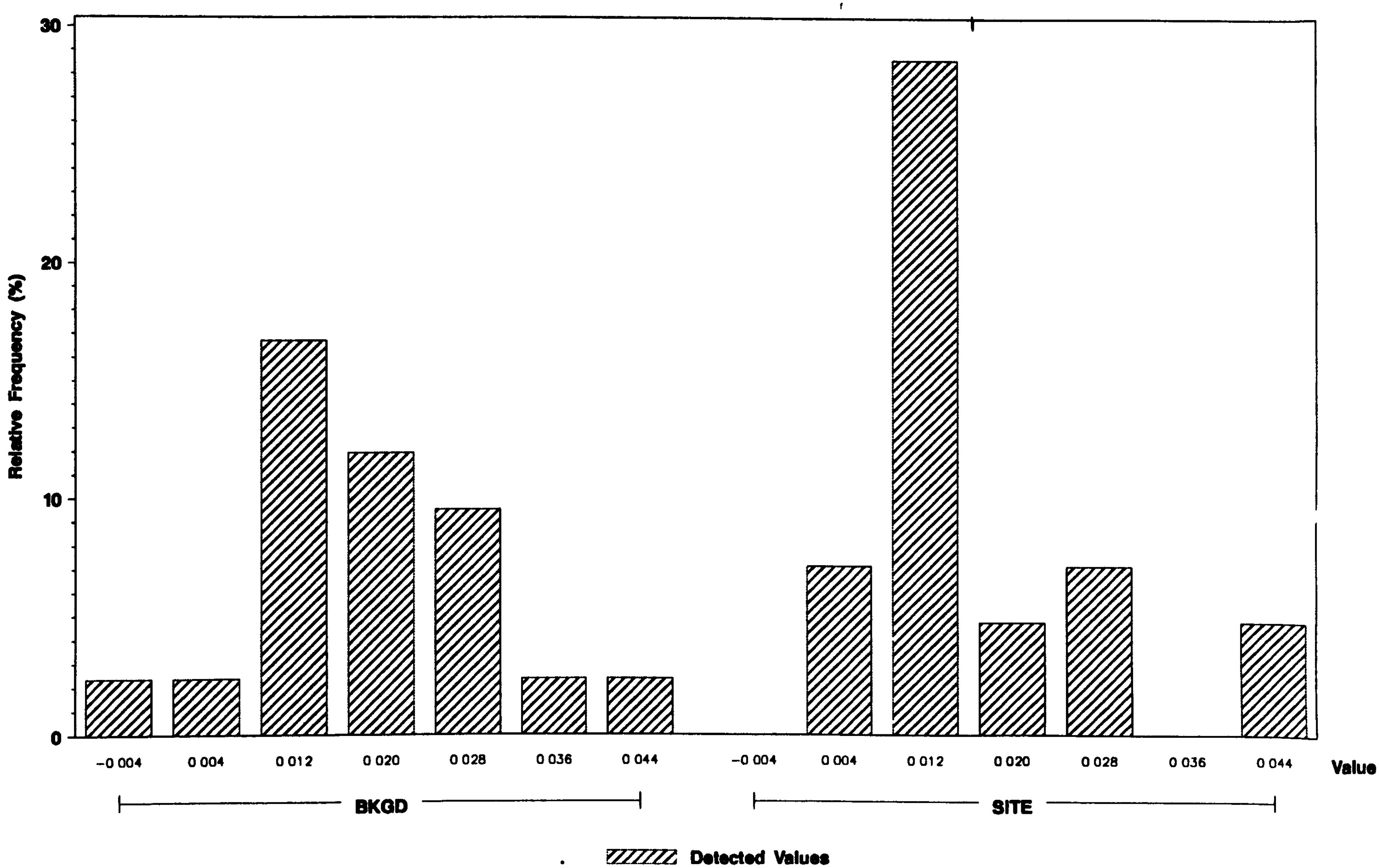
ANALYTE=CESIUM-134



Background vs IHSS 114 Frequency Histogram

AMERICIUM-241 (pCi/g) in Surface Soils (0-2 inches)

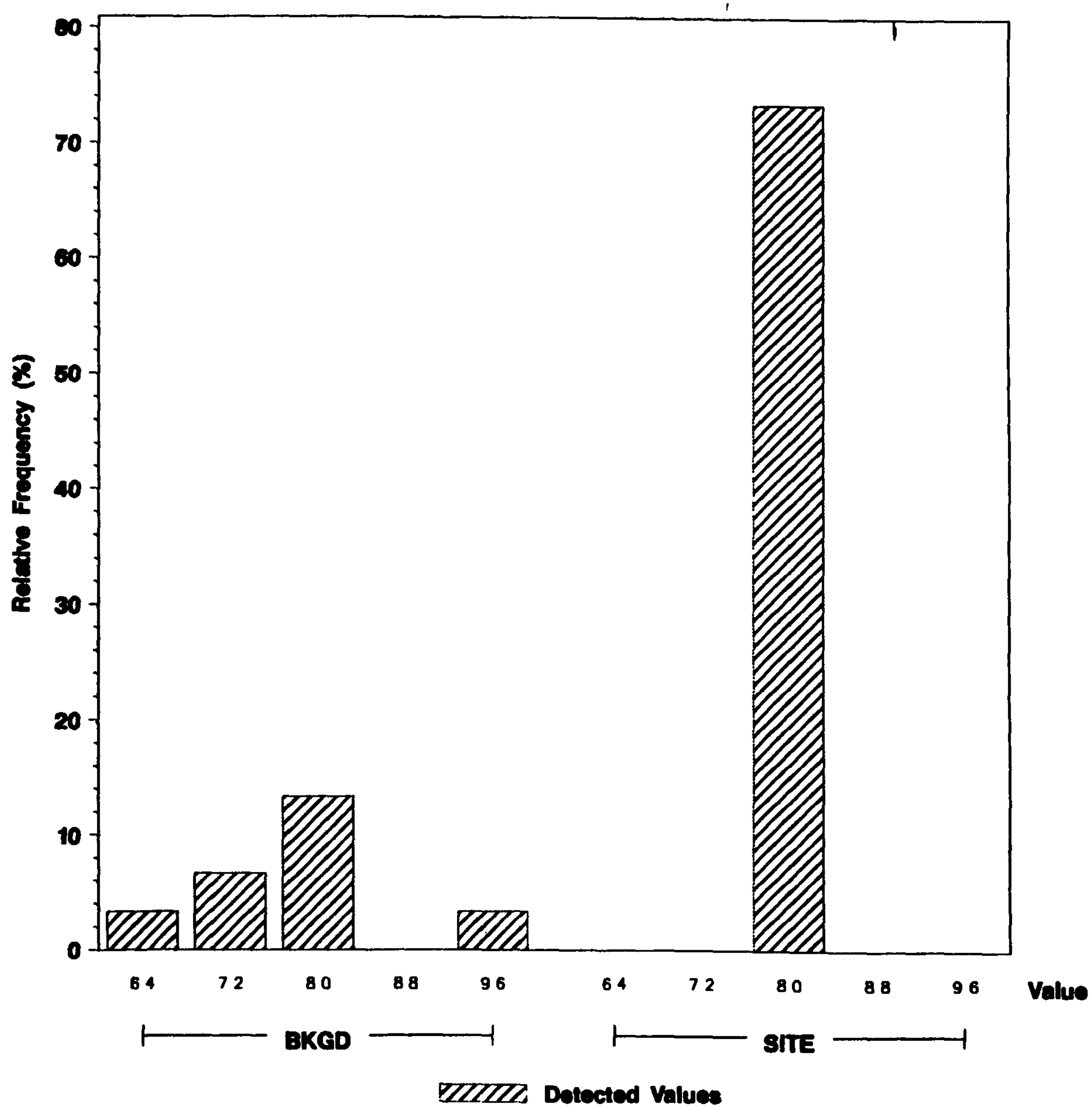
ANALYTE=AMERICIUM-241



Background vs IHSS 114 Frequency Histogram

pH in Surface Soils (0 – 2 inches)

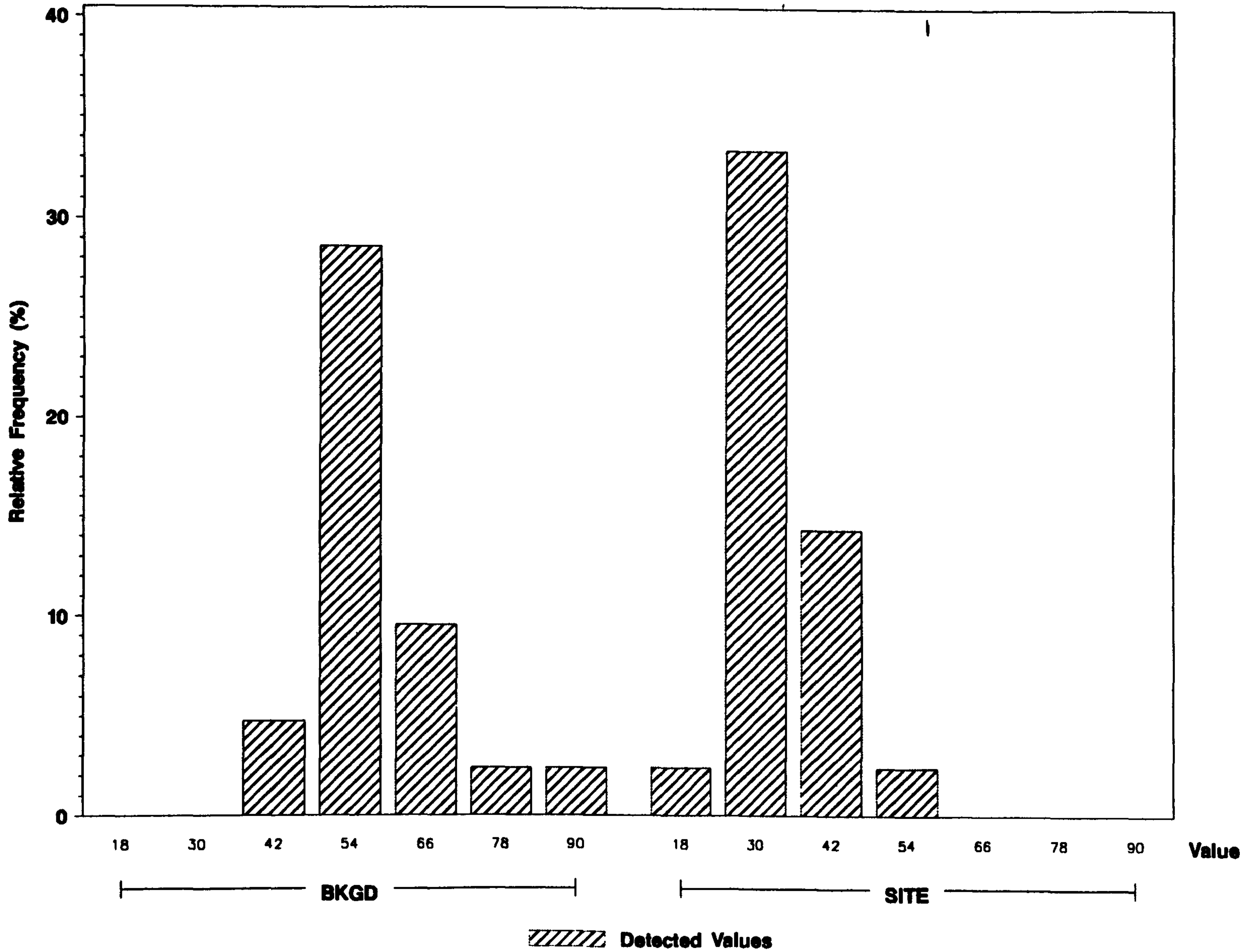
ANALYTE = pH



Background vs IHSS 114 Frequency Histogram

ZINC (mg/Kg) in Surface Soils (0 – 2 inches)

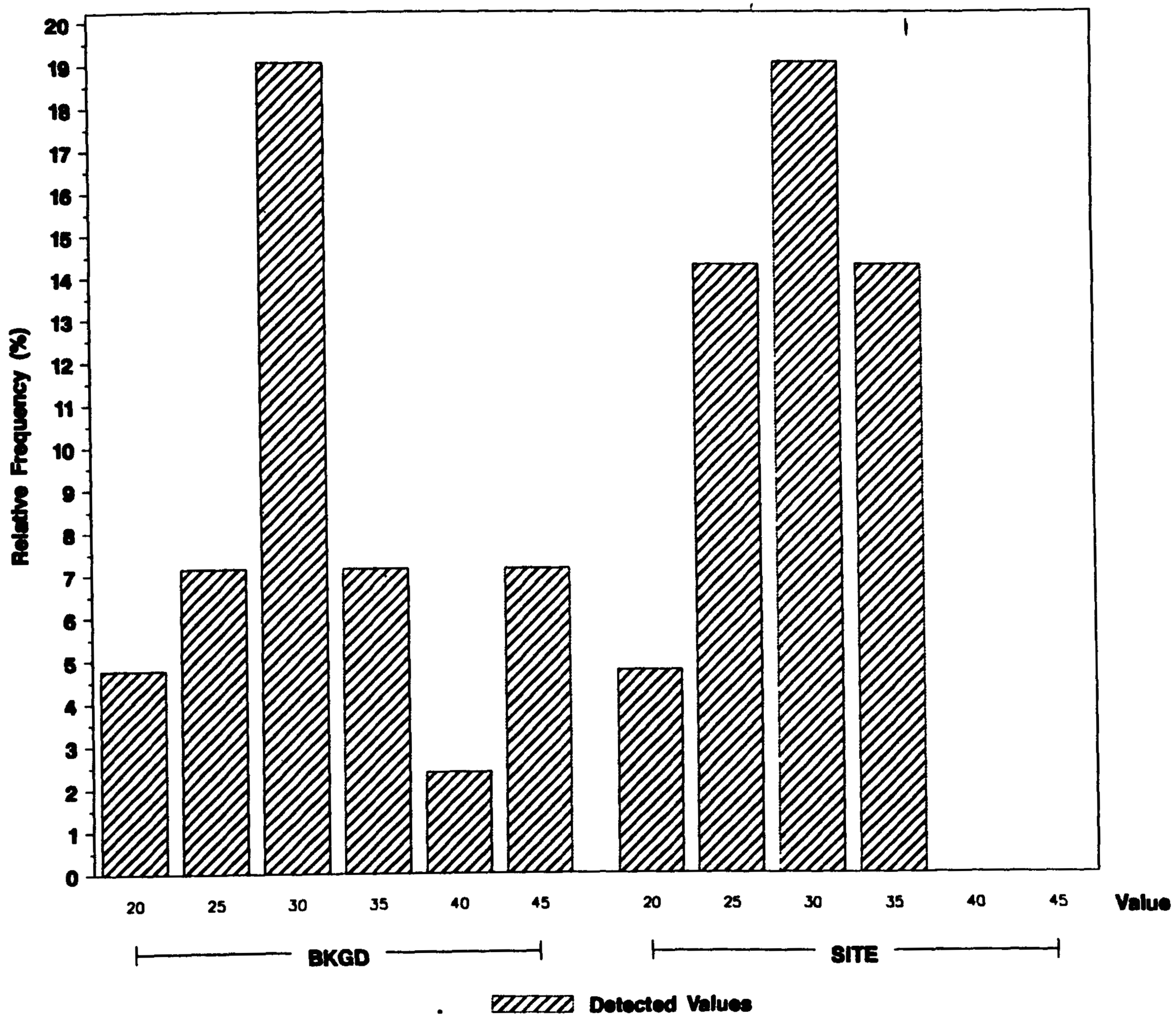
ANALYTE = ZINC



Background vs IHSS 114 Frequency Histogram

VANADIUM (mg/Kg) in Surface Soils (0 – 2 Inches)

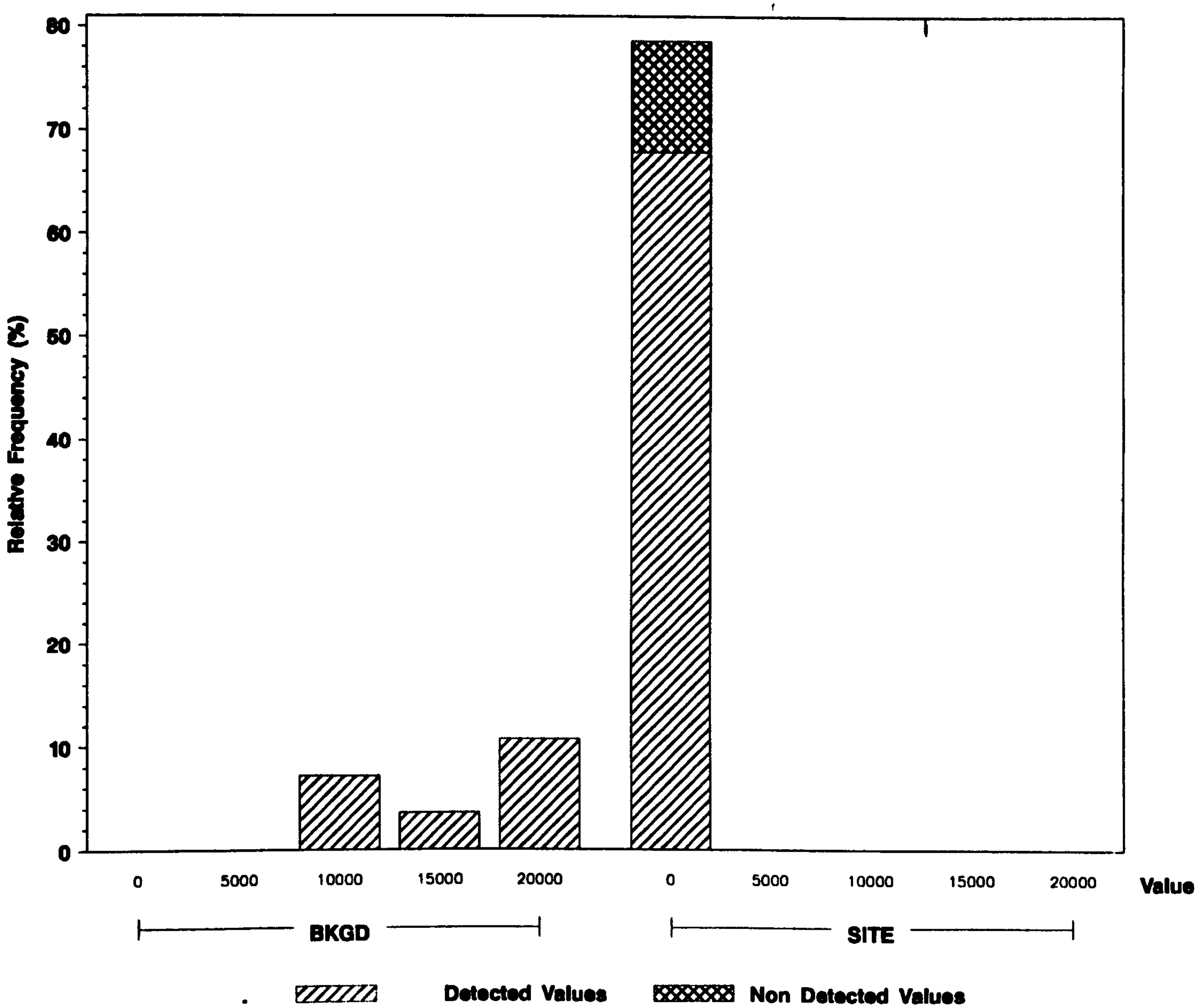
ANALYTE=VANADIUM



Background vs IHSS 114 Frequency Histogram

TOTAL ORGANIC CARBON (mg/Kg) in Surface Soils (0-2 inches)

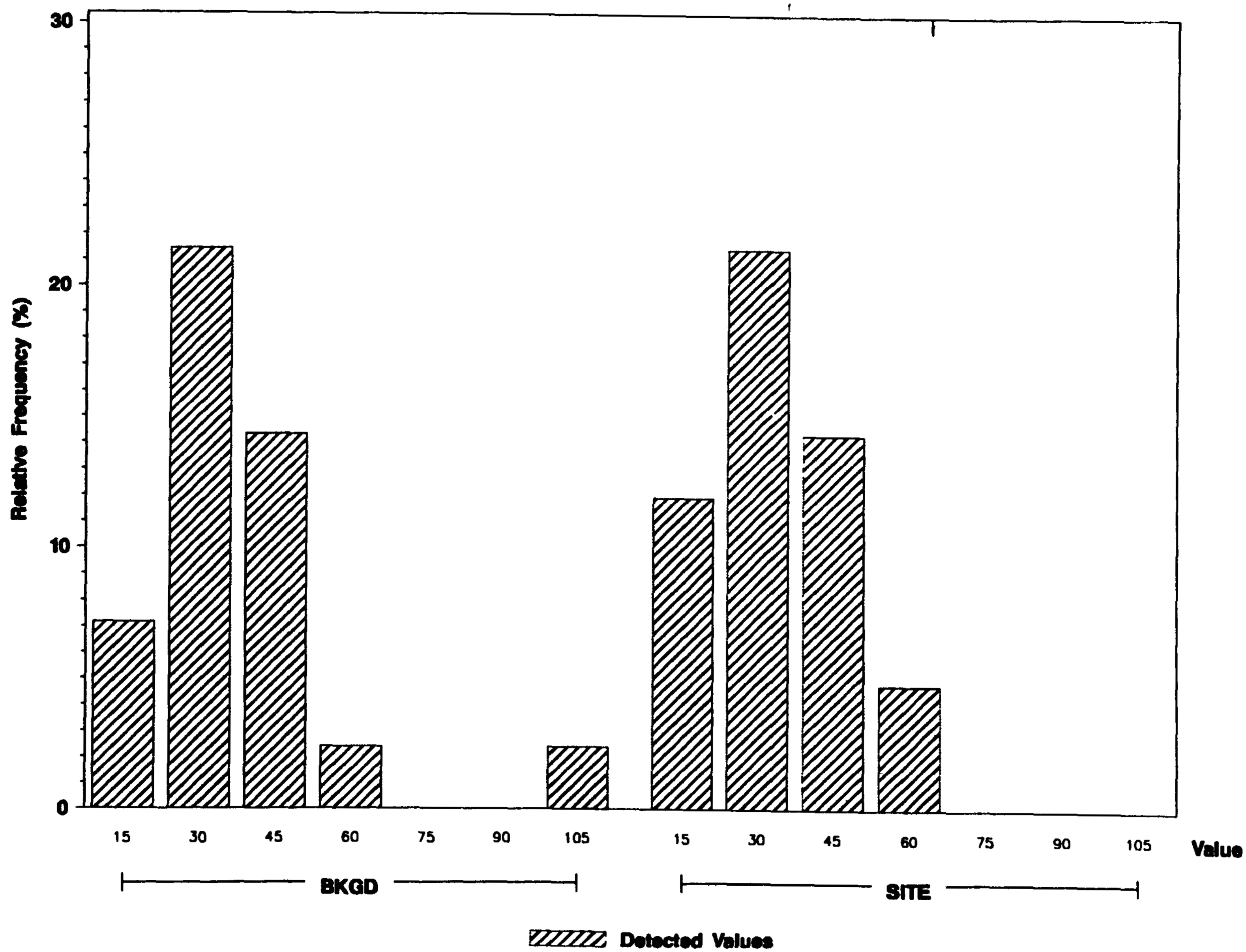
ANALYTE=TOTAL ORGANIC CARBON



Background vs IHSS 114 Frequency Histogram

STRONTIUM (mg/Kg) in Surface Soils (0 – 2 inches)

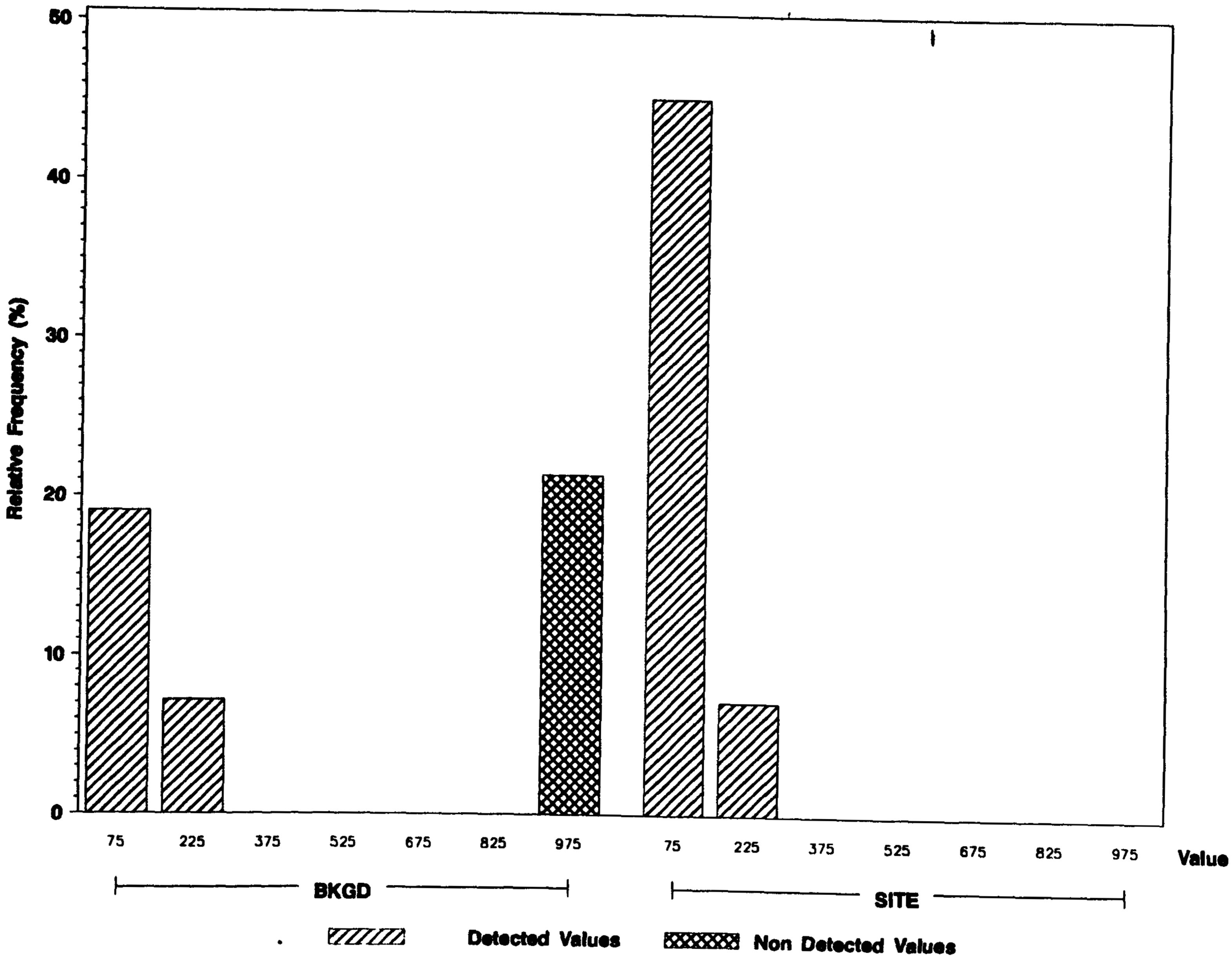
ANALYTE = STRONTIUM



Background vs IHSS 114 Frequency Histogram

SODIUM (mg/Kg) In Surface Soils (0 – 2 Inches)

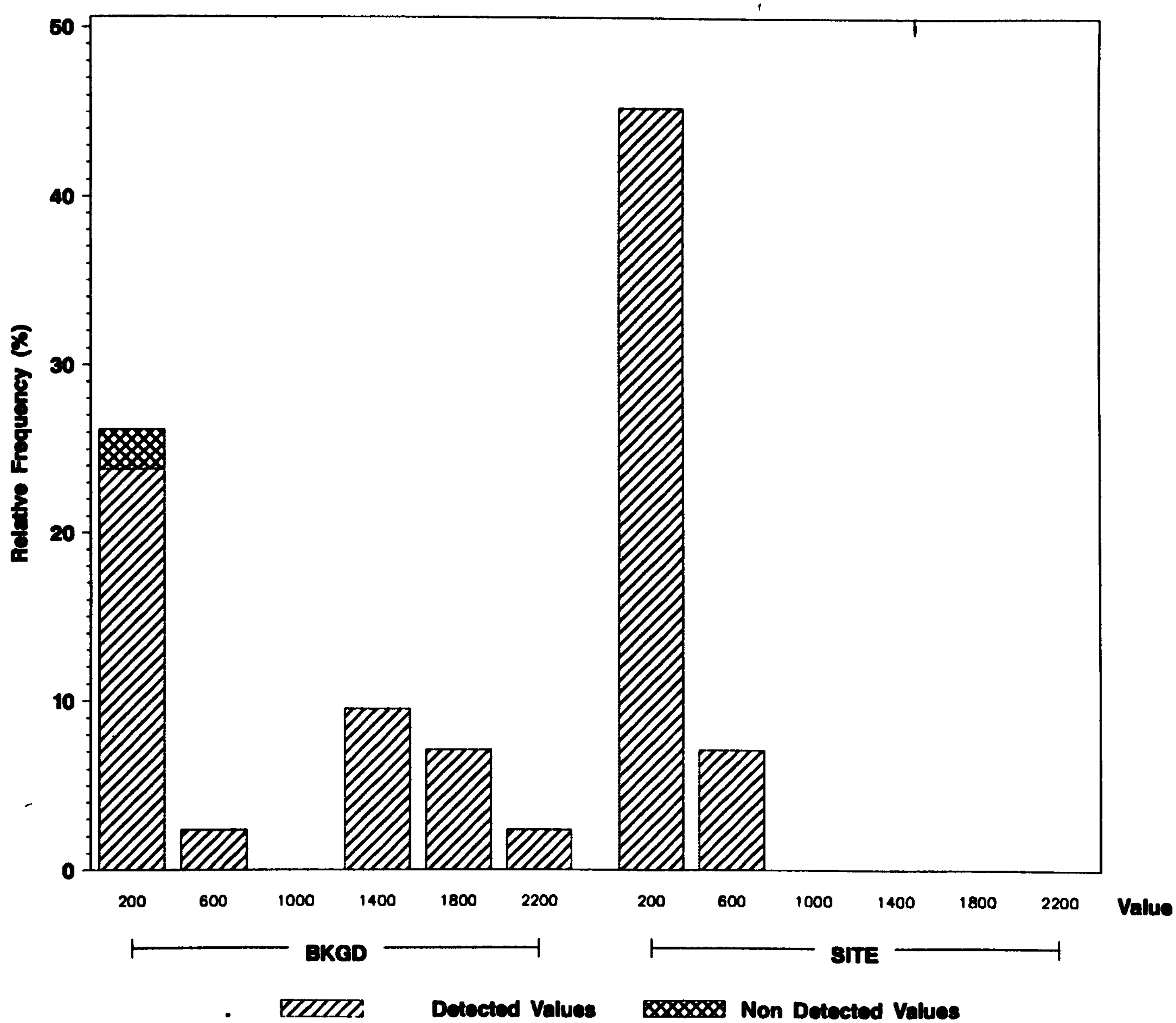
ANALYTE=SODIUM



Background vs IHSS 114 Frequency Histogram

SILICON (mg/Kg) in Surface Soils (0 – 2 inches)

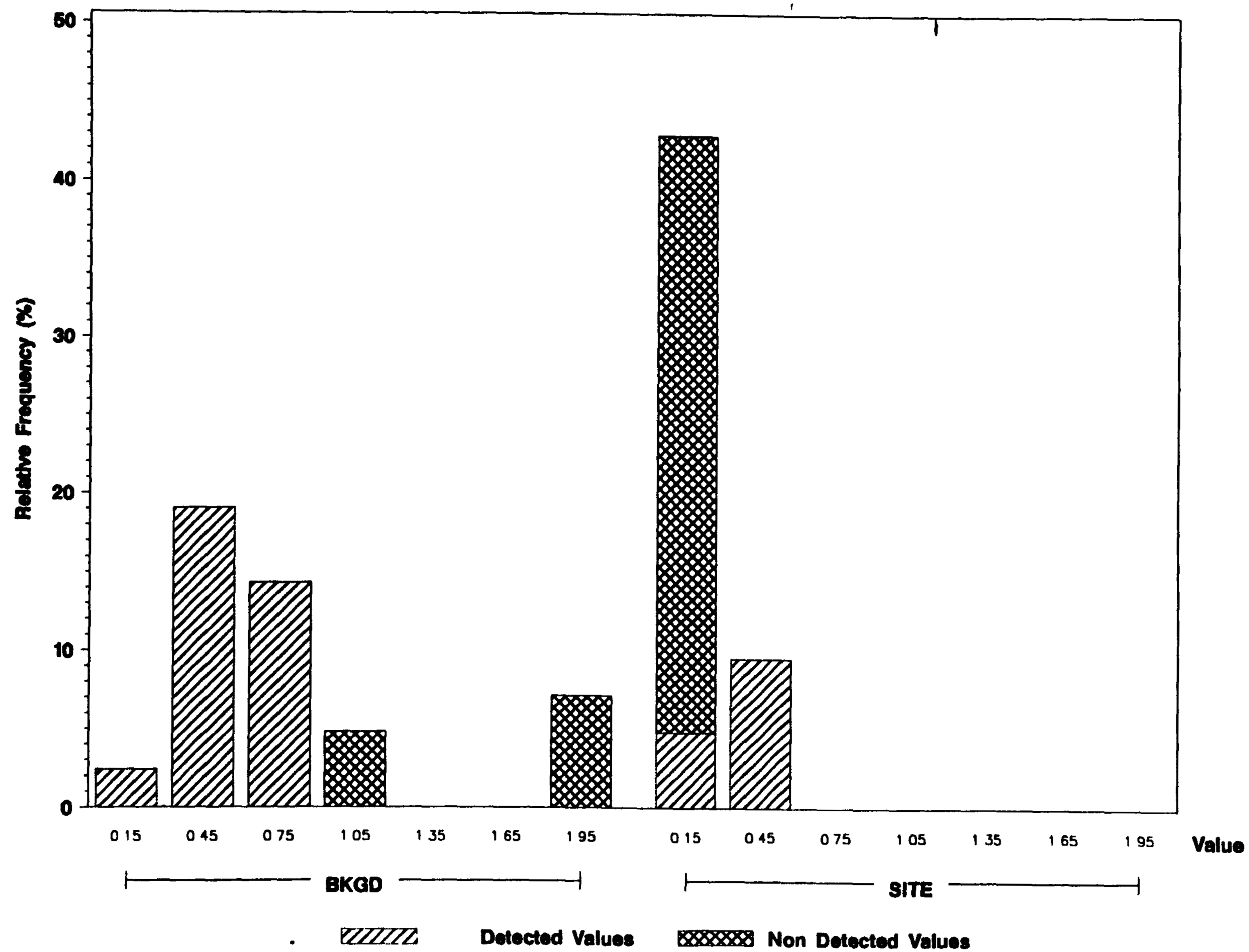
ANALYTE=SILICON



Background vs IHSS 114 Frequency Histogram

SELENIUM (mg/Kg) in Surface Soils (0 – 2 inches)

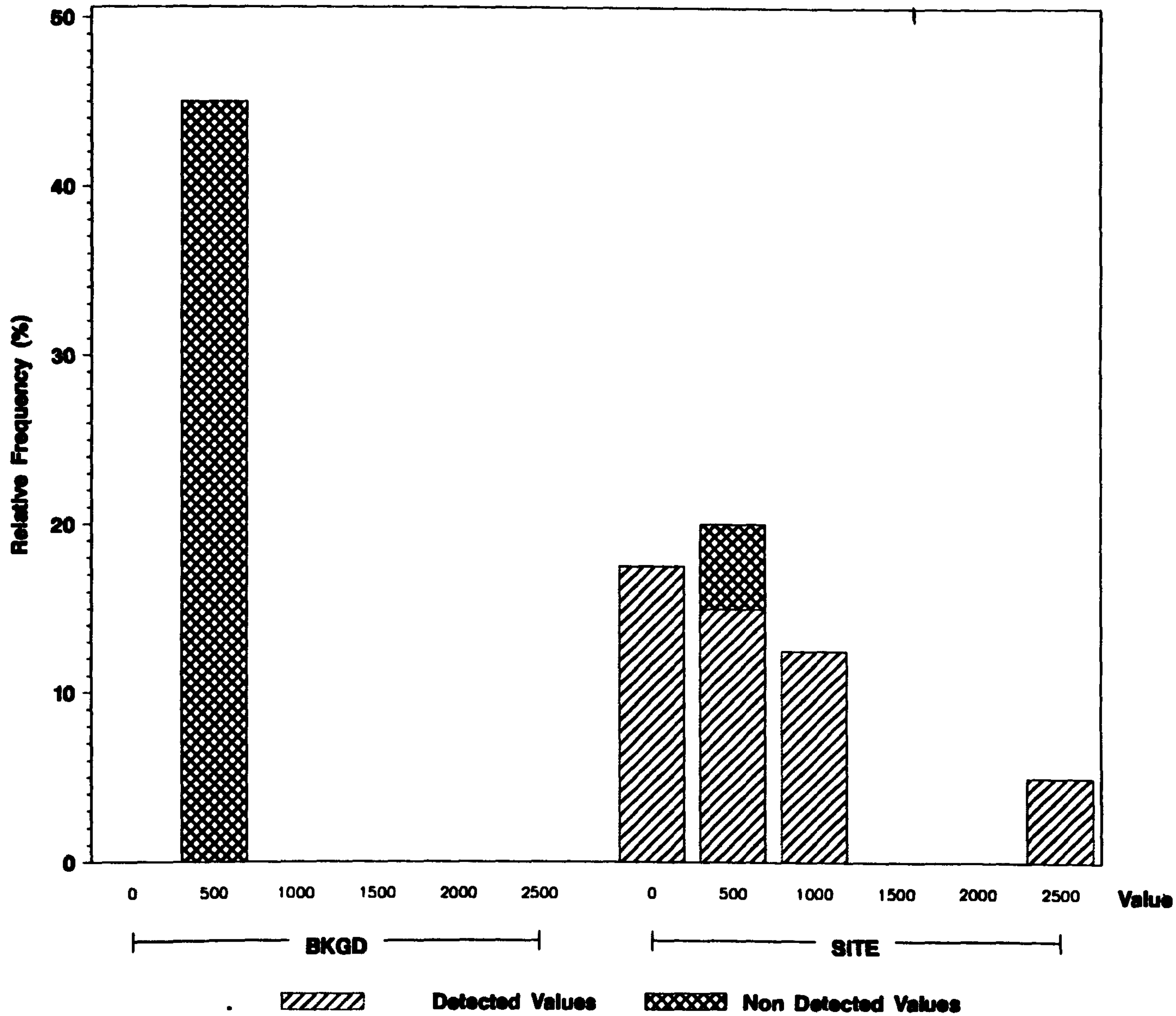
ANALYTE = SELENIUM



Background vs IHSS 114 Frequency Histogram

PYRENE (ug/Kg) in Surface Soils (0−2 Inches)

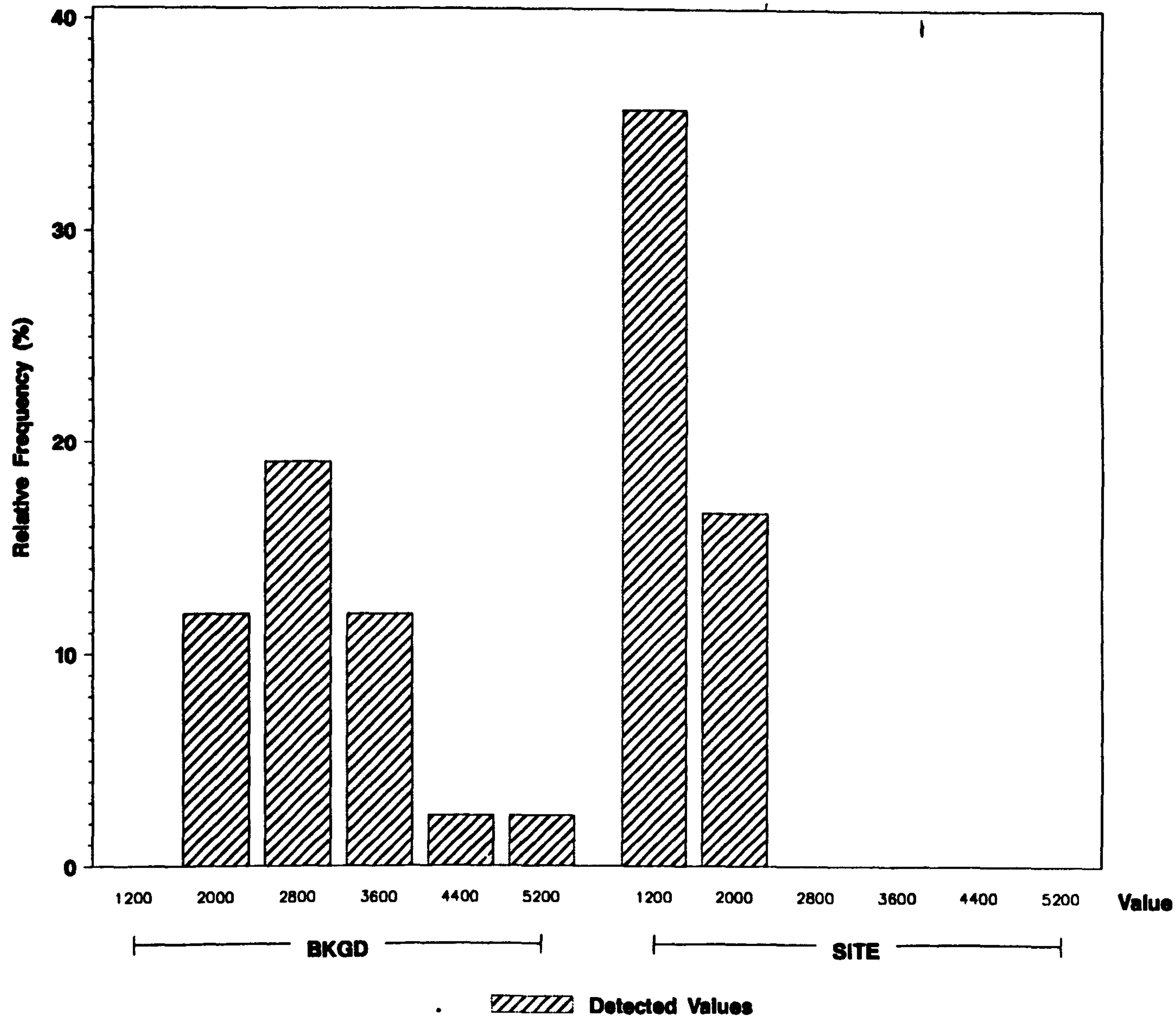
ANALYTE = PYRENE



Background vs IHSS 114 Frequency Histogram

POTASSIUM (mg/Kg) in Surface Soils (0–2 inches)

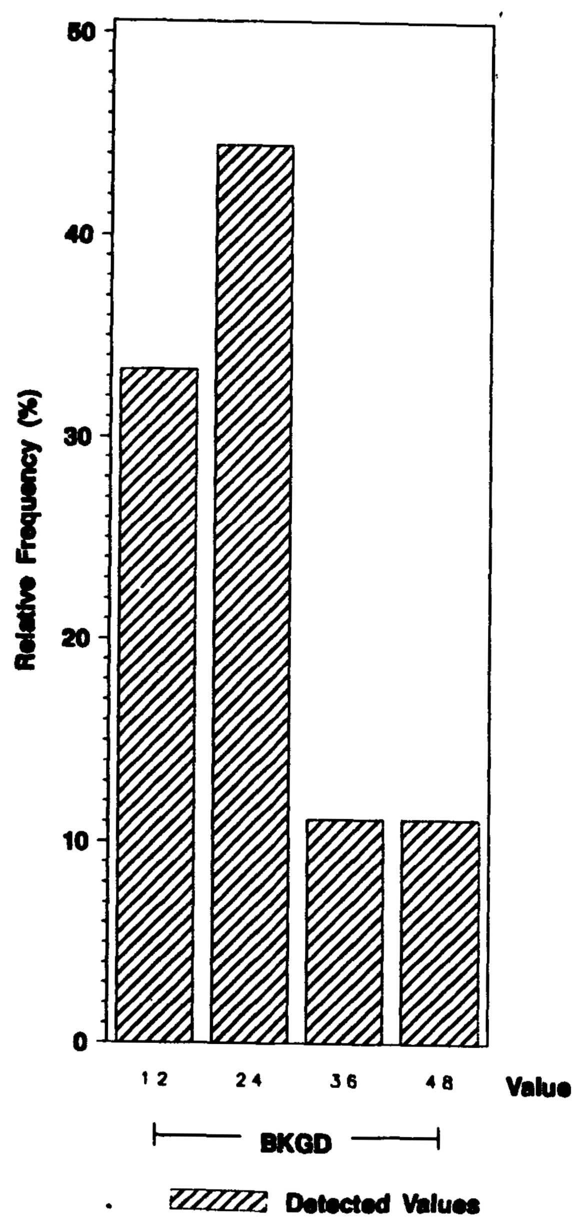
ANALYTE = POTASSIUM



Background vs IHSS 114 Frequency Histogram

NITRATE/NITRITE (mg/Kg) in Surface Soils (0–2 Inches)

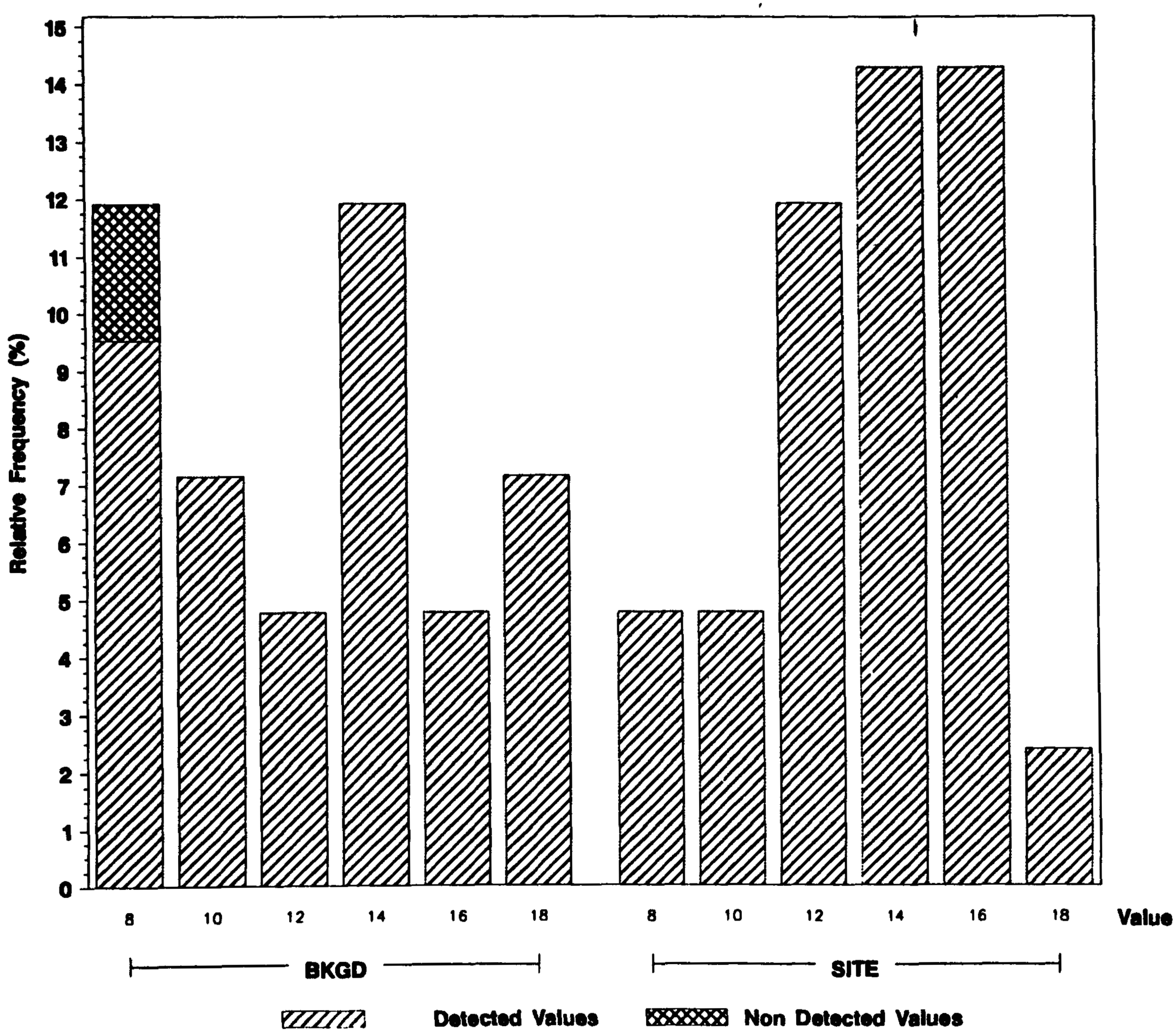
ANALYTE=NITRATE/NITRITE



Background vs IHSS 114 Frequency Histogram

NICKEL (mg/Kg) in Surface Soils (0–2 inches)

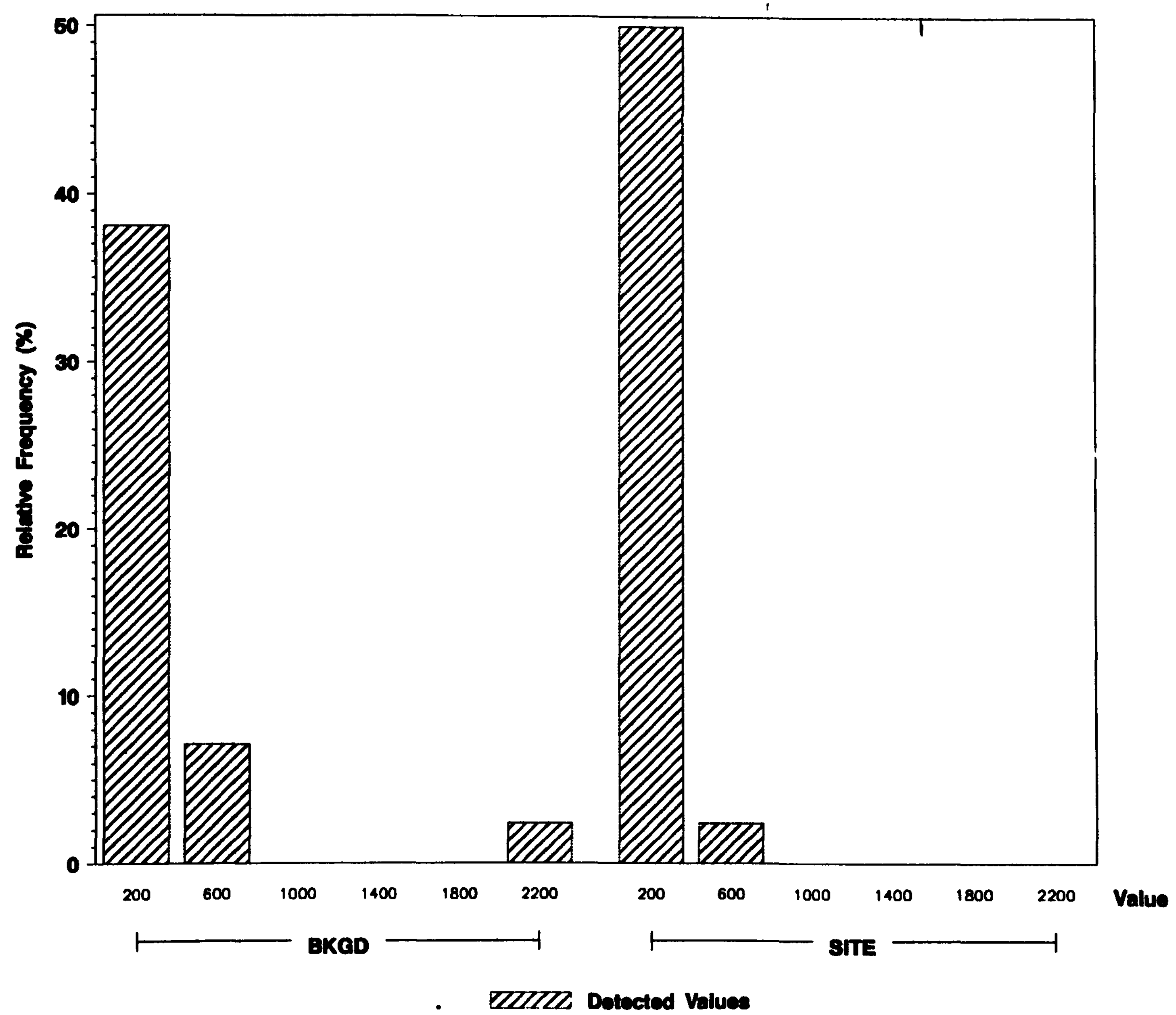
ANALYTE=NICKEL



Background vs IHSS 114 Frequency Histogram

MANGANESE (mg/Kg) in Surface Soils (0 – 2 inches)

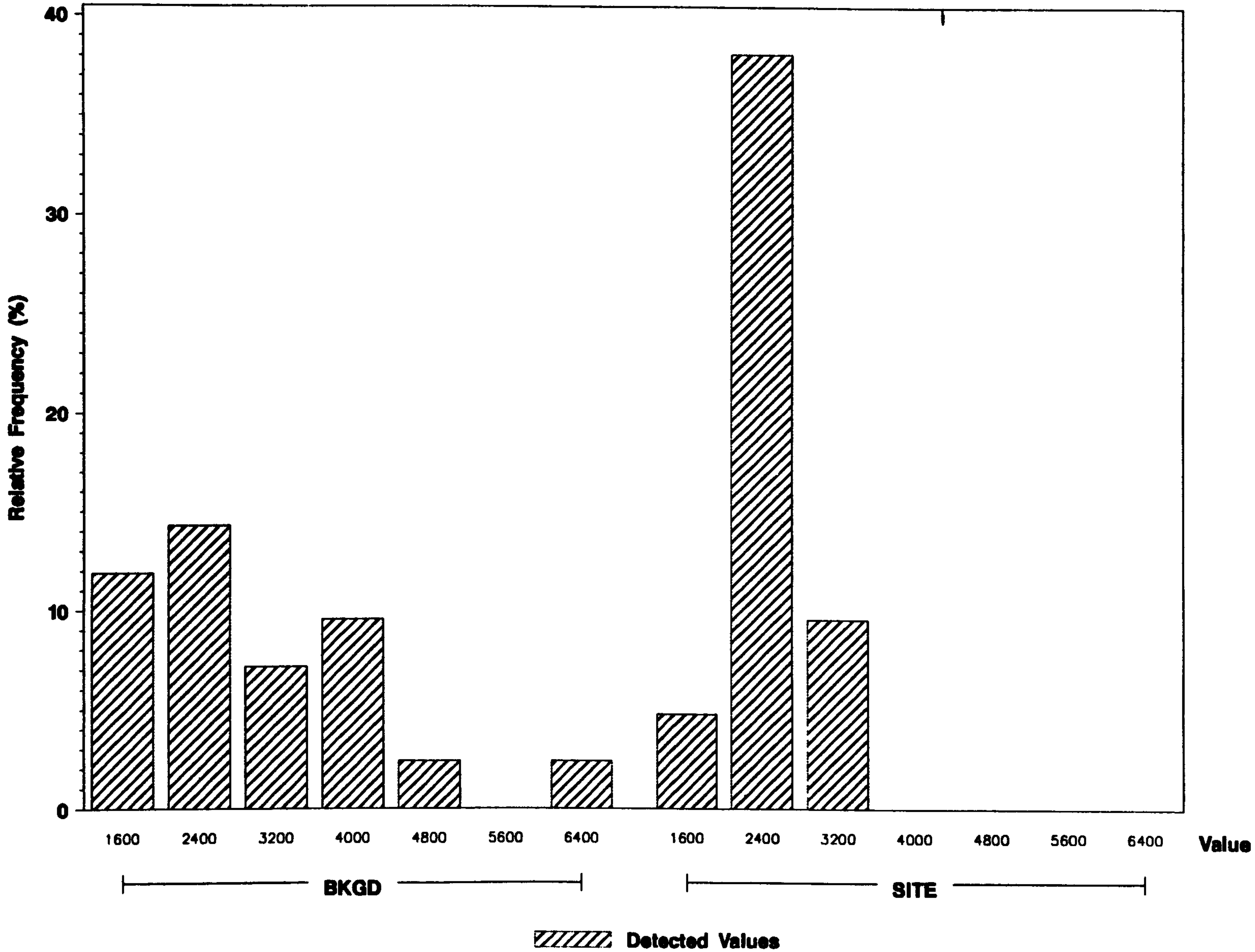
ANALYTE=MANGANESE



Background vs IHSS 114 Frequency Histogram

MAGNESIUM (mg/Kg) in Surface Soils (0–2 inches)

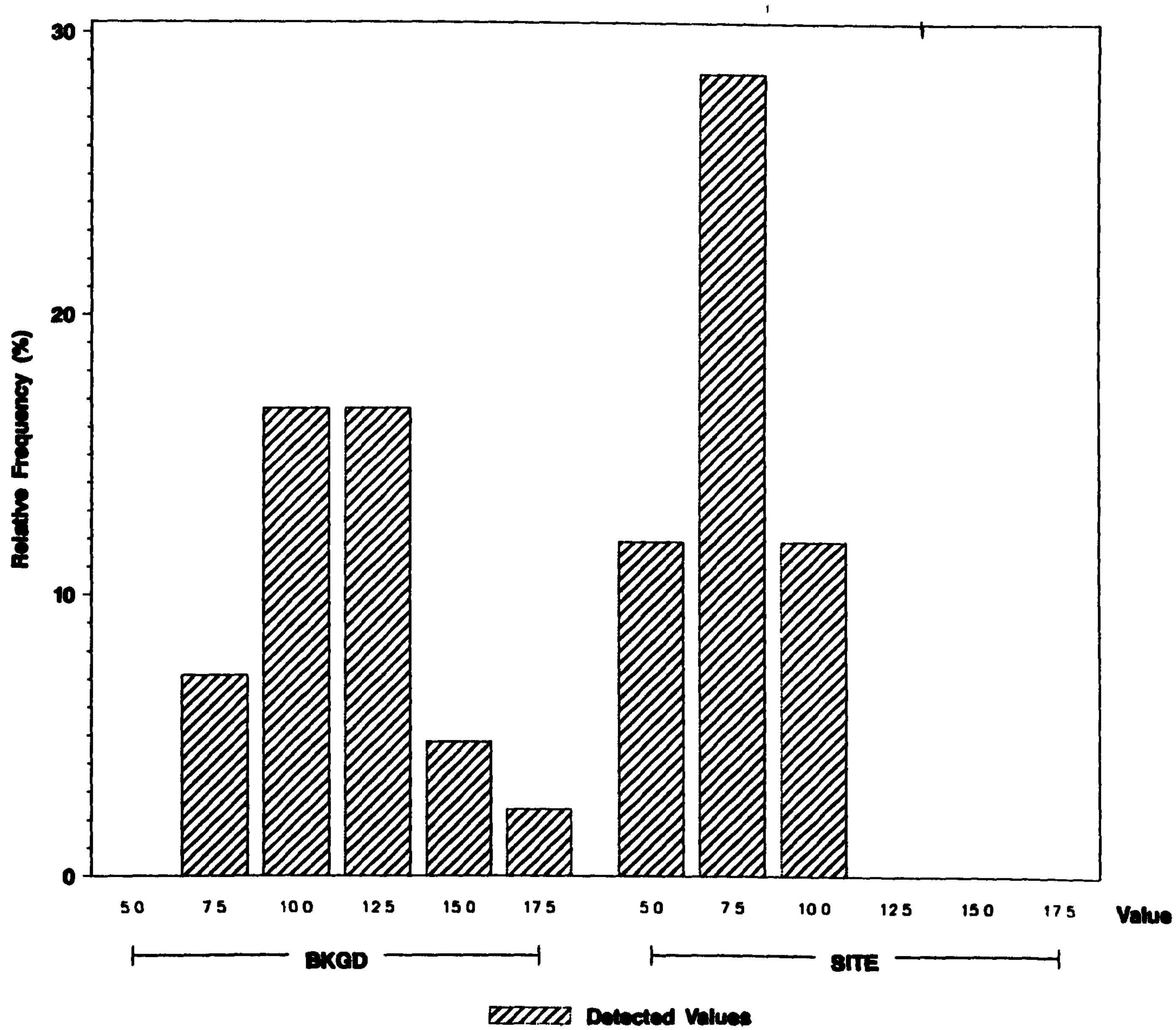
ANALYTE=MAGNESIUM



Background vs IHSS 114 Frequency Histogram

LITHIUM (mg/Kg) in Surface Soils (0 – 2 inches)

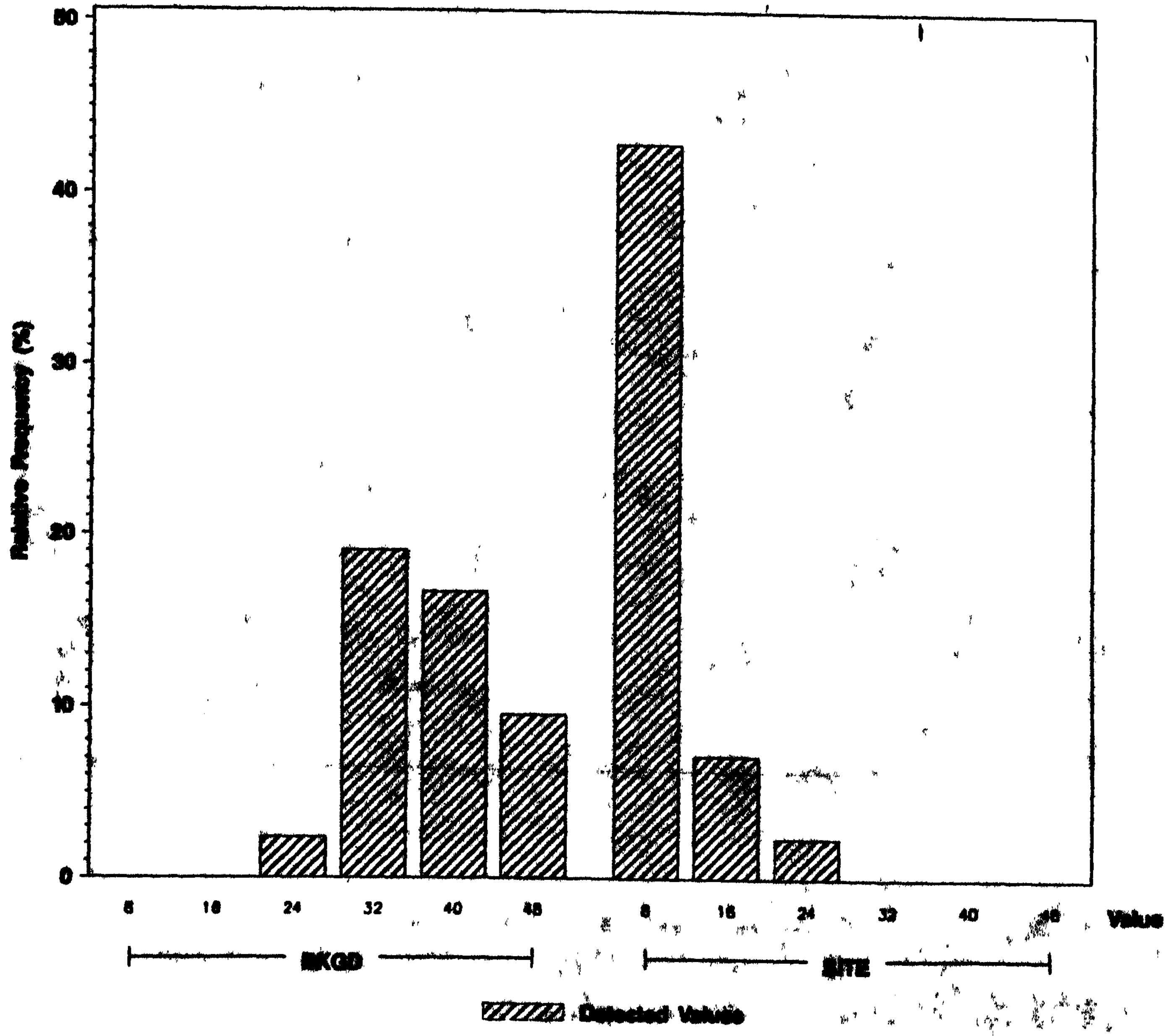
ANALYTE = LITHIUM



Background vs IHSS 114 Frequency Histogram

LEAD (mg/Kg) in Surface Soils (0–2 Inches)

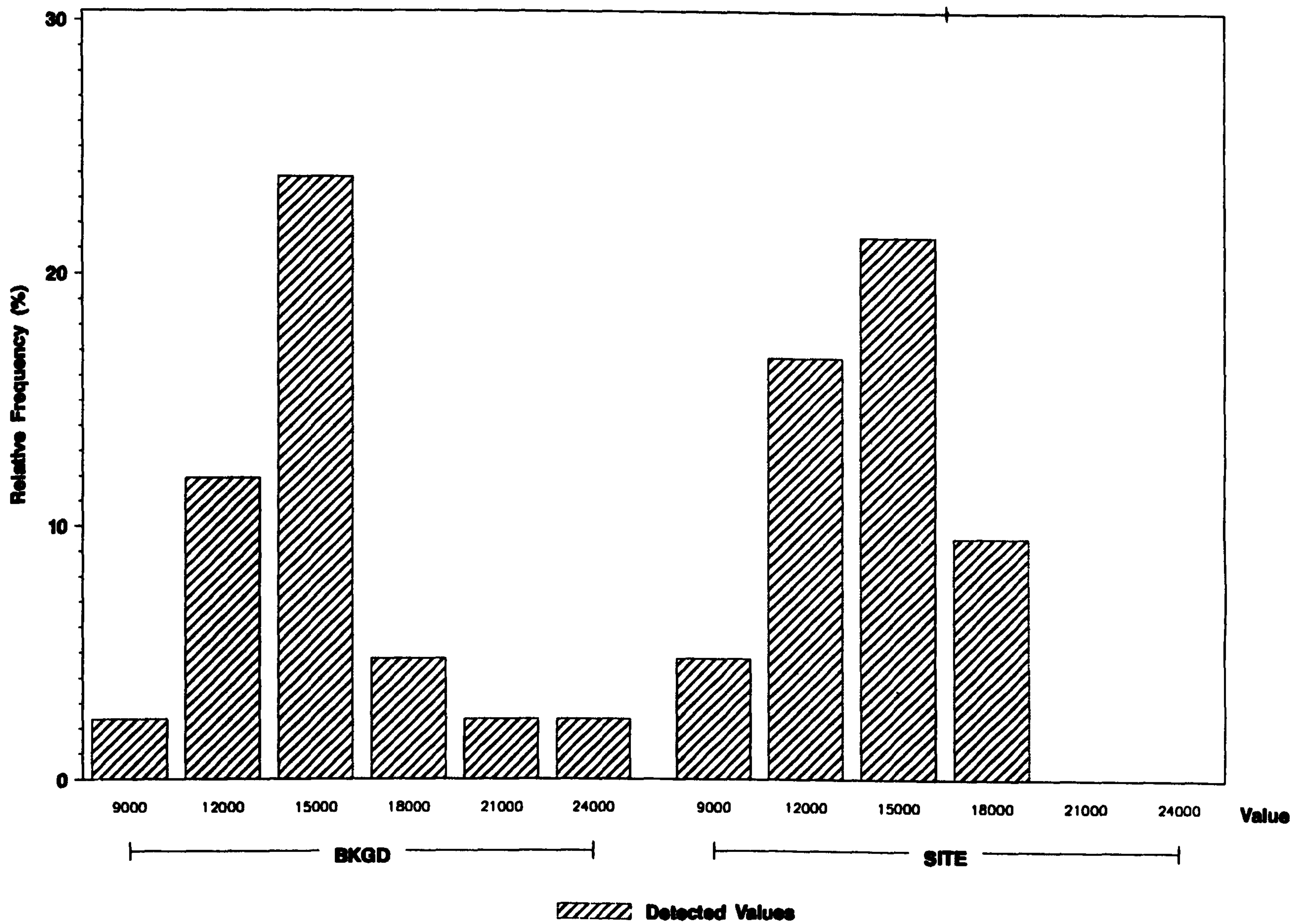
ANALYTE=LEAD



Background vs IHSS 114 Frequency Histogram

IRON (mg/Kg) in Surface Soils (0 – 2 Inches)

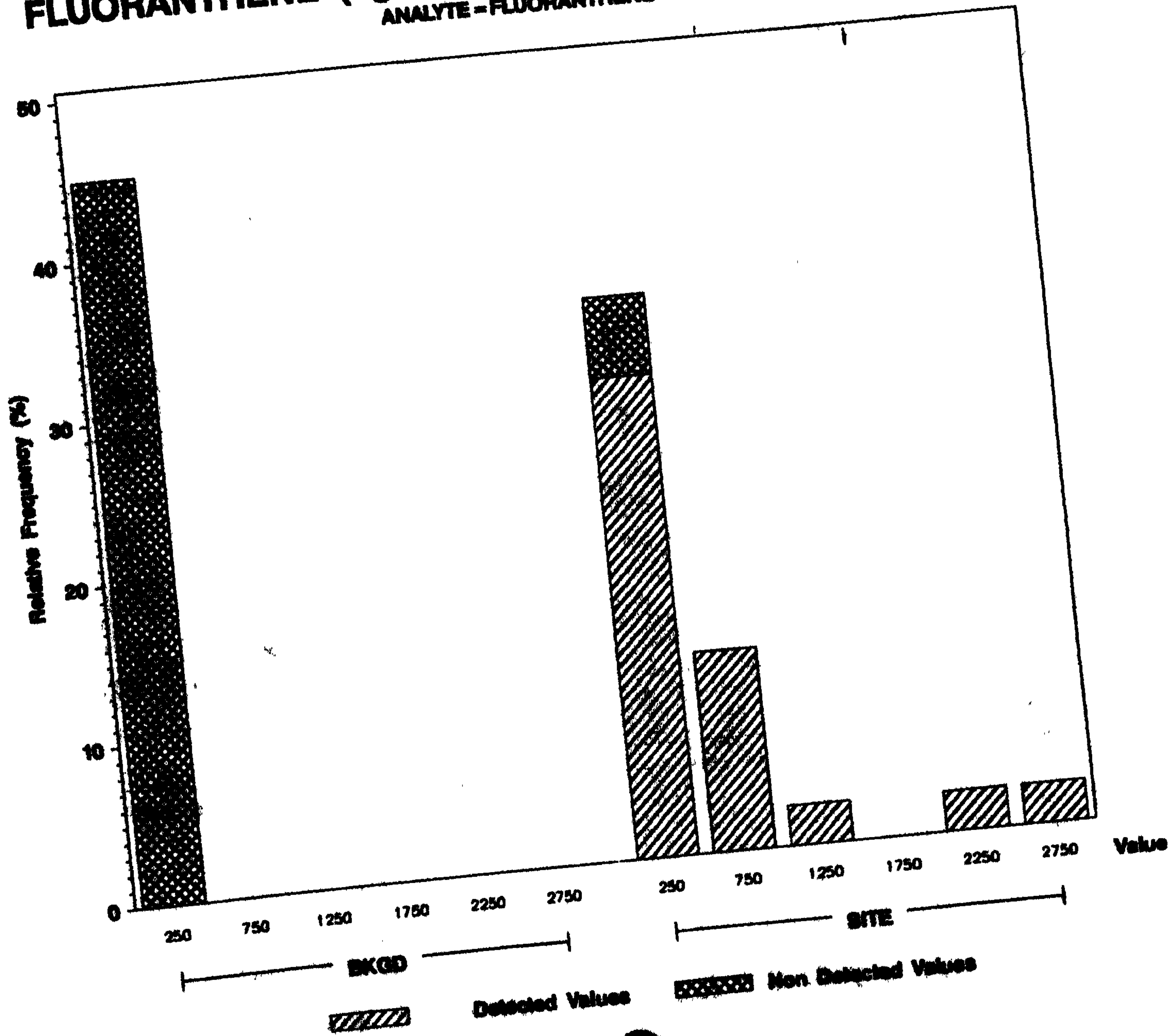
ANALYTE=IRON



Background vs IHSS 114 Frequency Histogram

FLUORANTHENE (ug/Kg) in Surface Soils (0–2 inches)

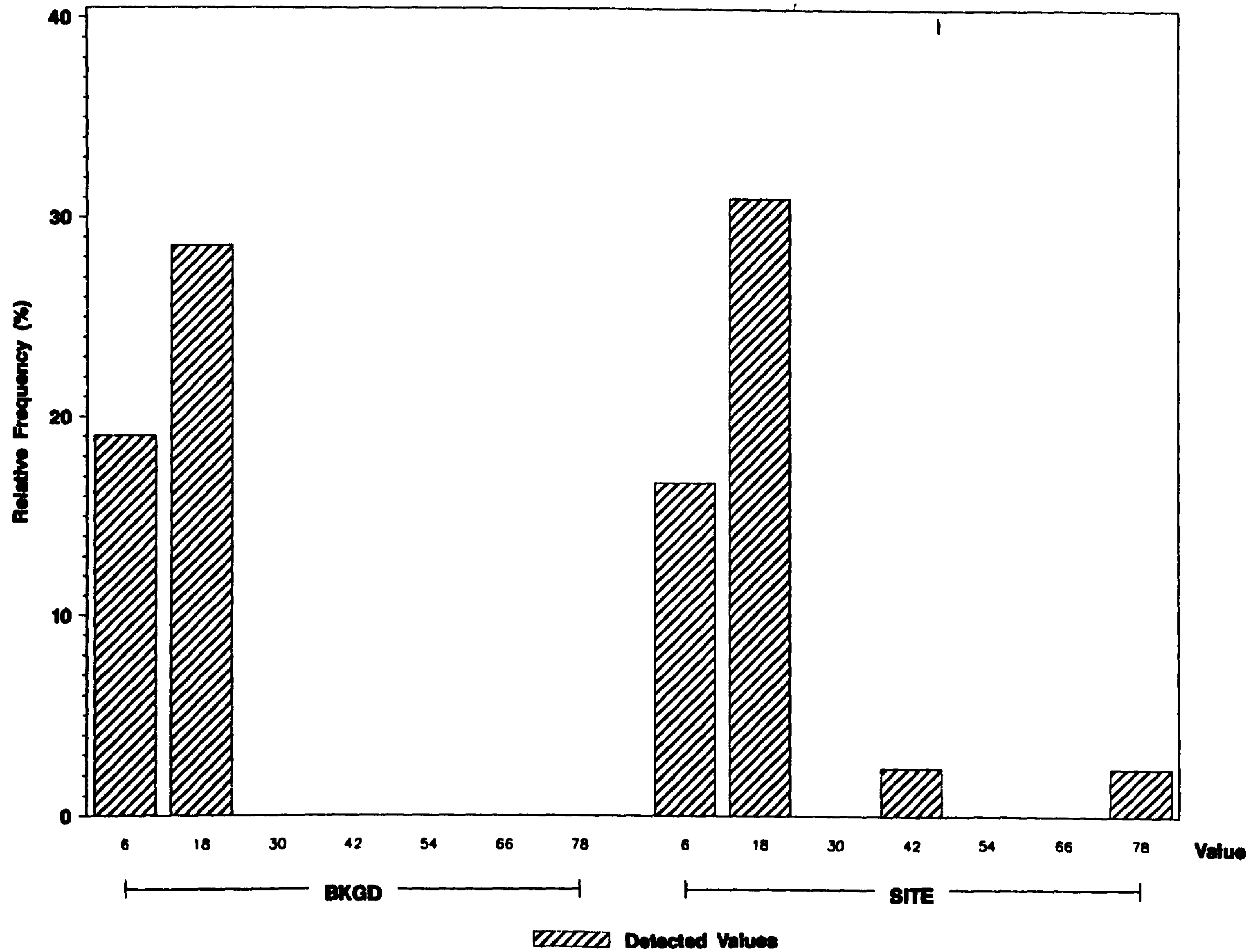
ANALYTE=FLUORANTHENE



Background vs IHSS 114 Frequency Histogram

COPPER (mg/Kg) in Surface Soils (0 – 2 Inches)

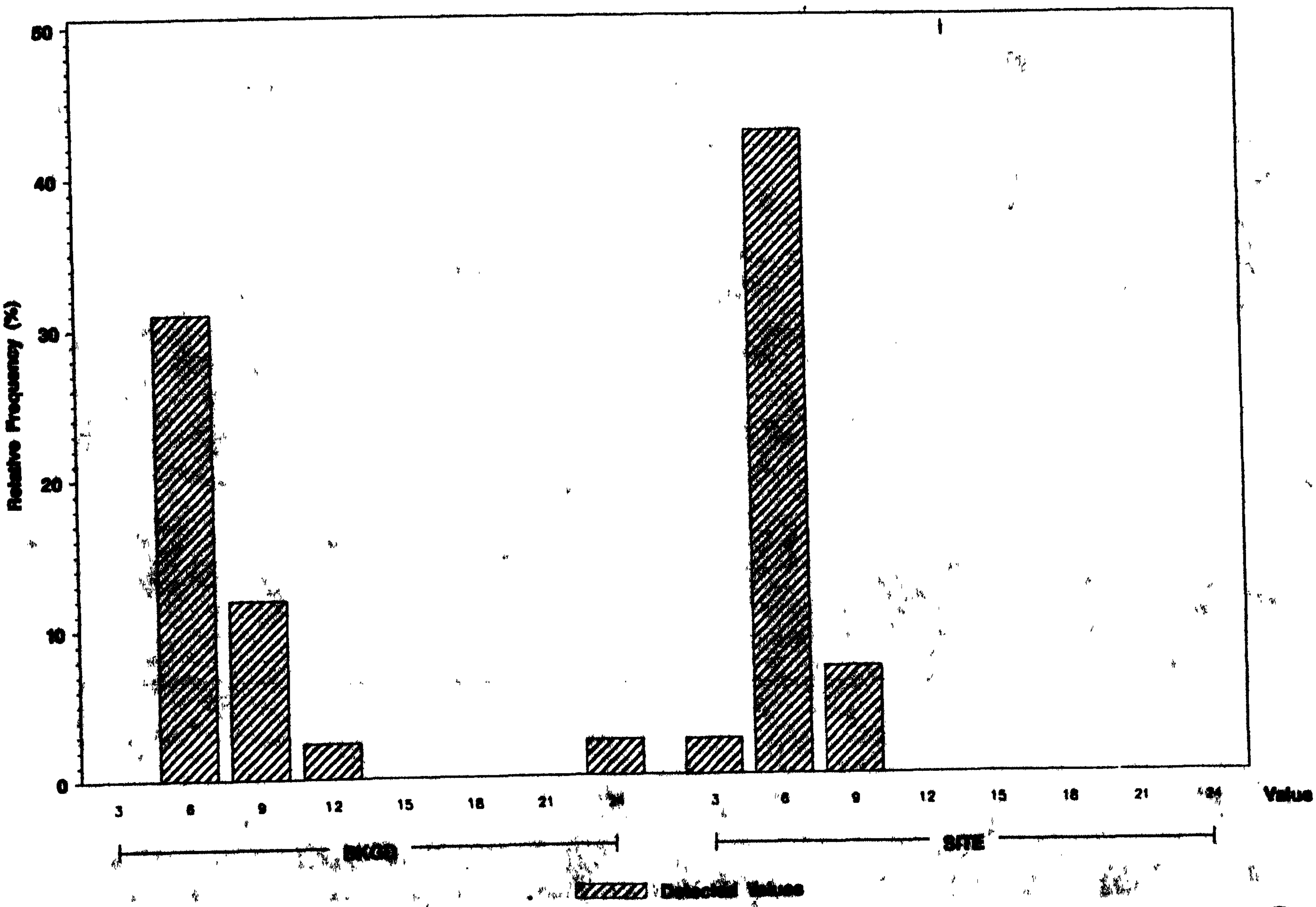
ANALYTE=COPPER



Background vs IHSS 114 Frequency Histogram

COBALT (mg/Kg) In Surface Soils (0 – 2 Inches)

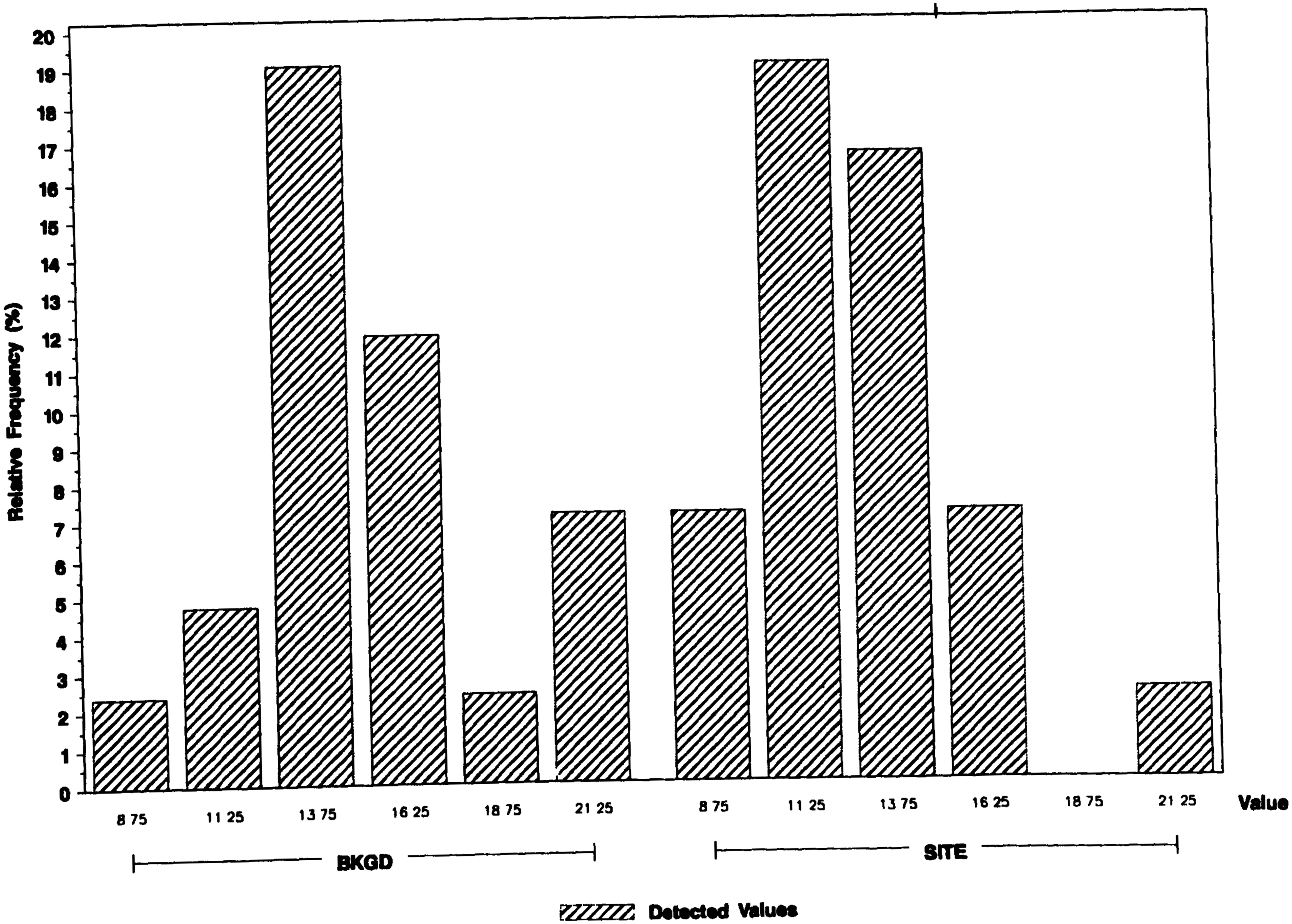
ANALYTE = COBALT



Background vs IHSS 114 Frequency Histogram

CHROMIUM (mg/Kg) in Surface Soils (0 – 2 inches)

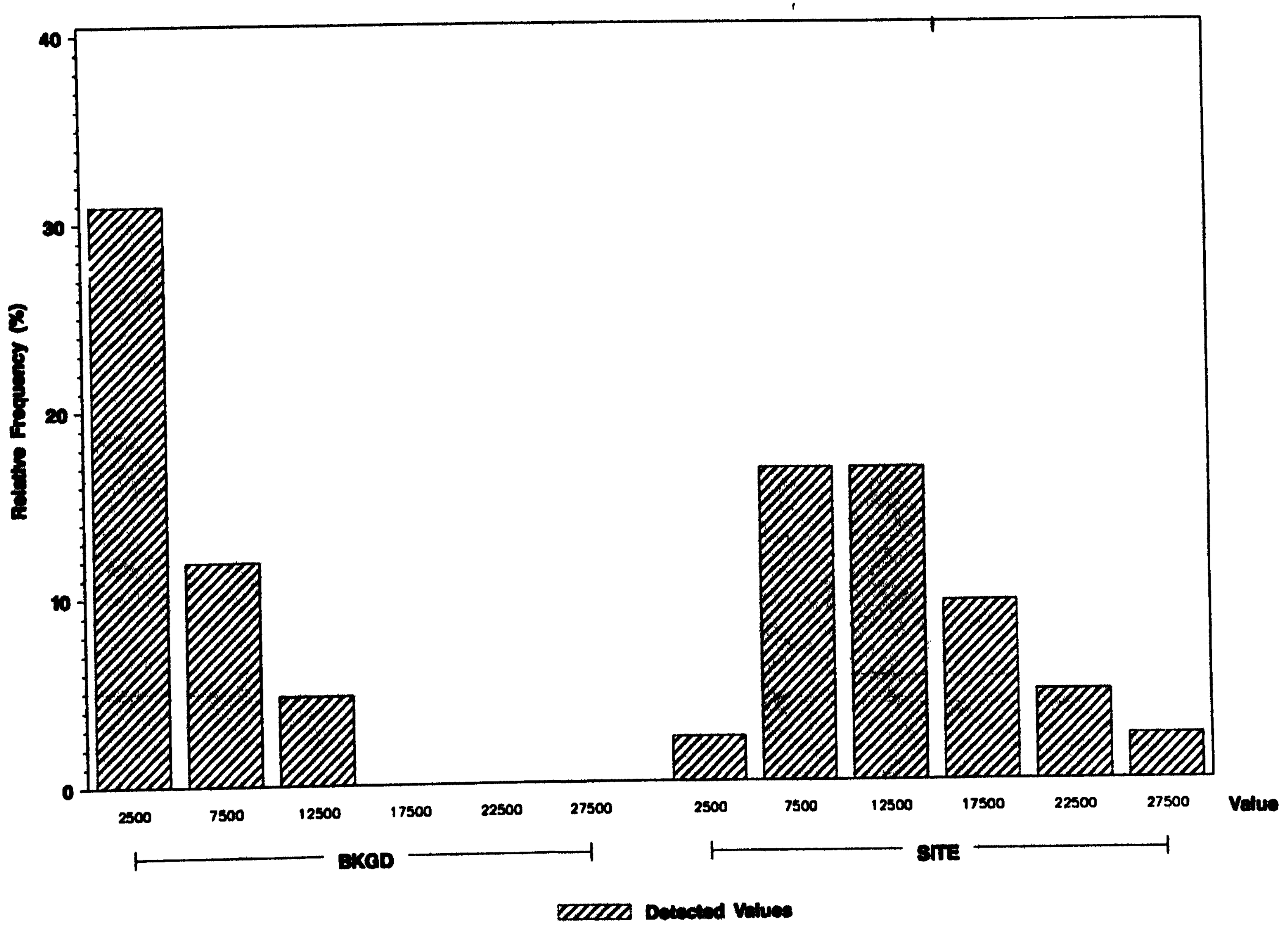
ANALYTE = CHROMIUM



Background vs IHSS 114 Frequency Histogram

CALCIUM (mg/Kg) In Surface Soils (0 – 2 Inches)

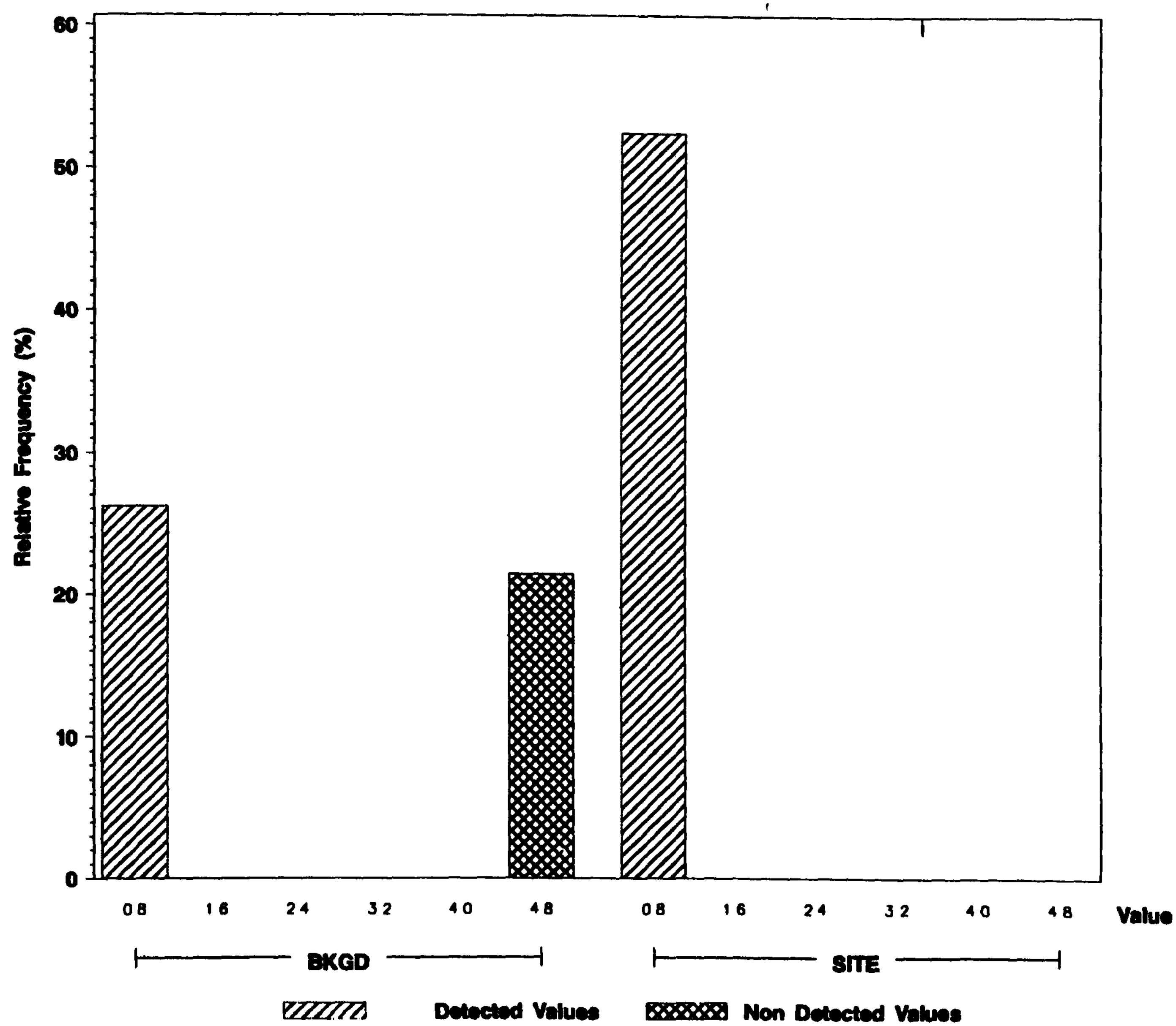
ANALYTE = CALCIUM



Background vs IHSS 114 Frequency Histogram

BERYLLIUM (mg/Kg) In Surface Soils (0 – 2 Inches)

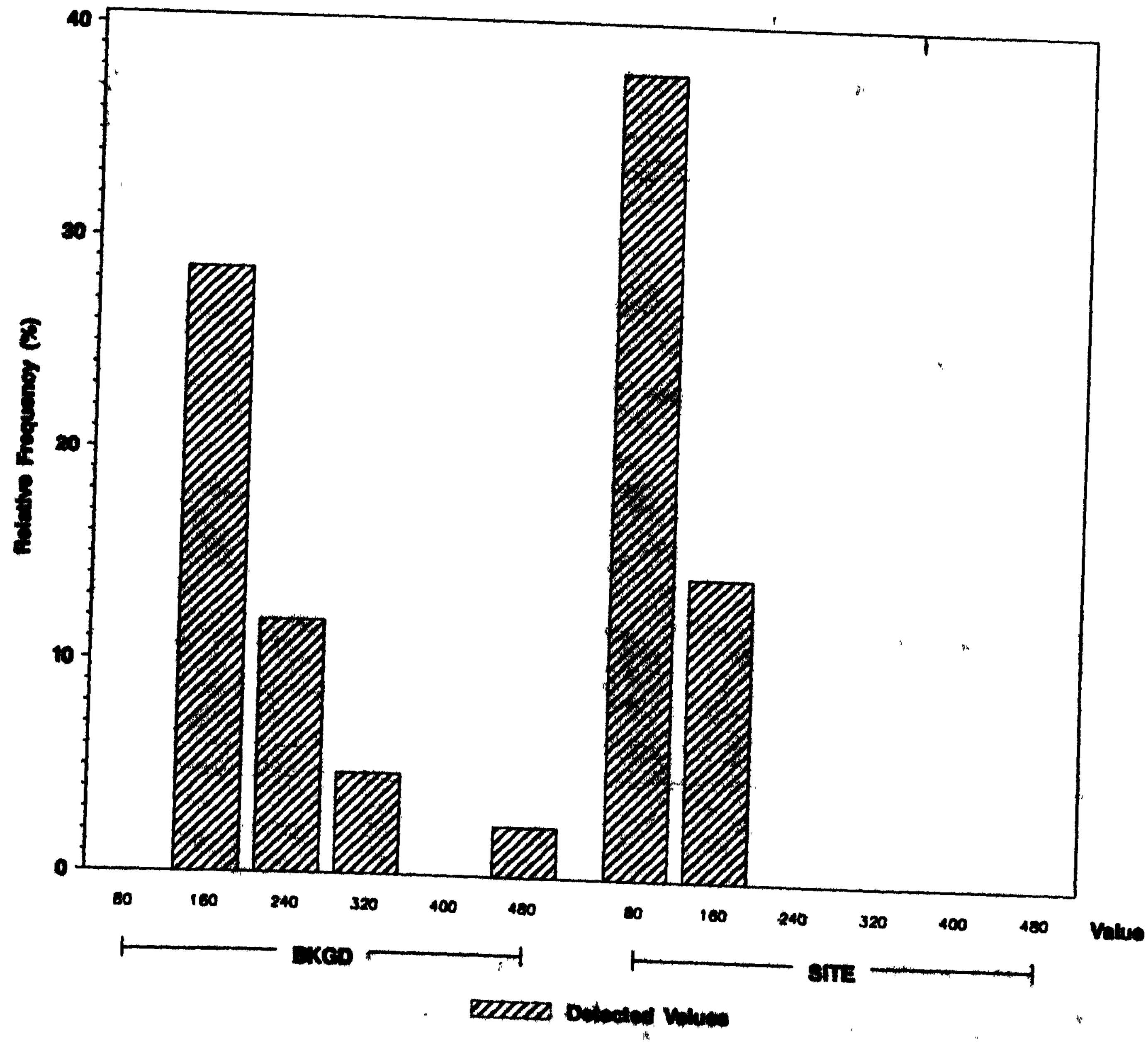
ANALYTE = BERYLLIUM



Background vs IHSS 114 Frequency Histogram

BARIUM (mg/Kg) in Surface Soils (0−2 Inches)

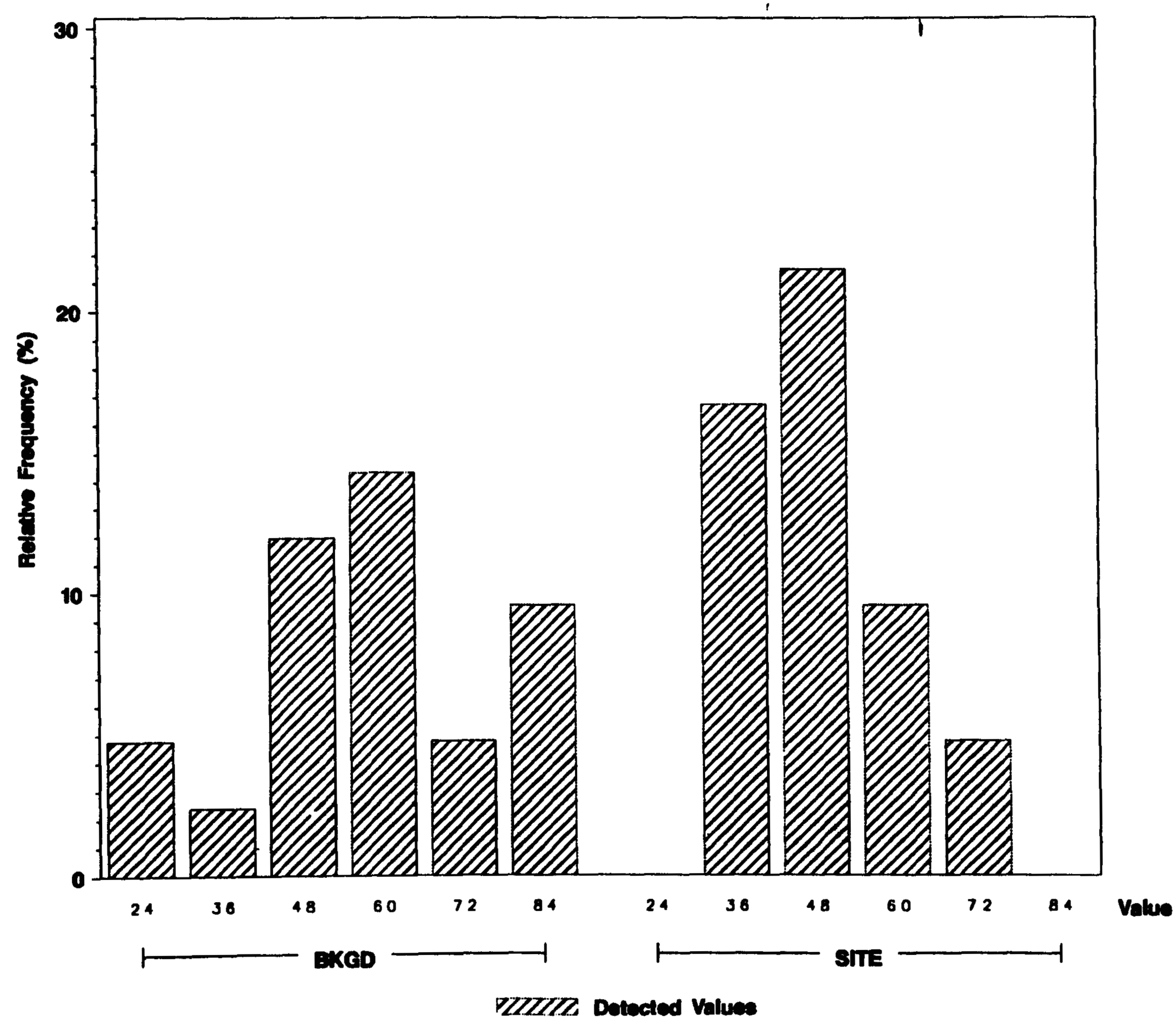
ANALYTE=BARIUM



Background vs IHSS 114 Frequency Histogram

ARSENIC (mg/Kg) in Surface Soils (0 – 2 inches)

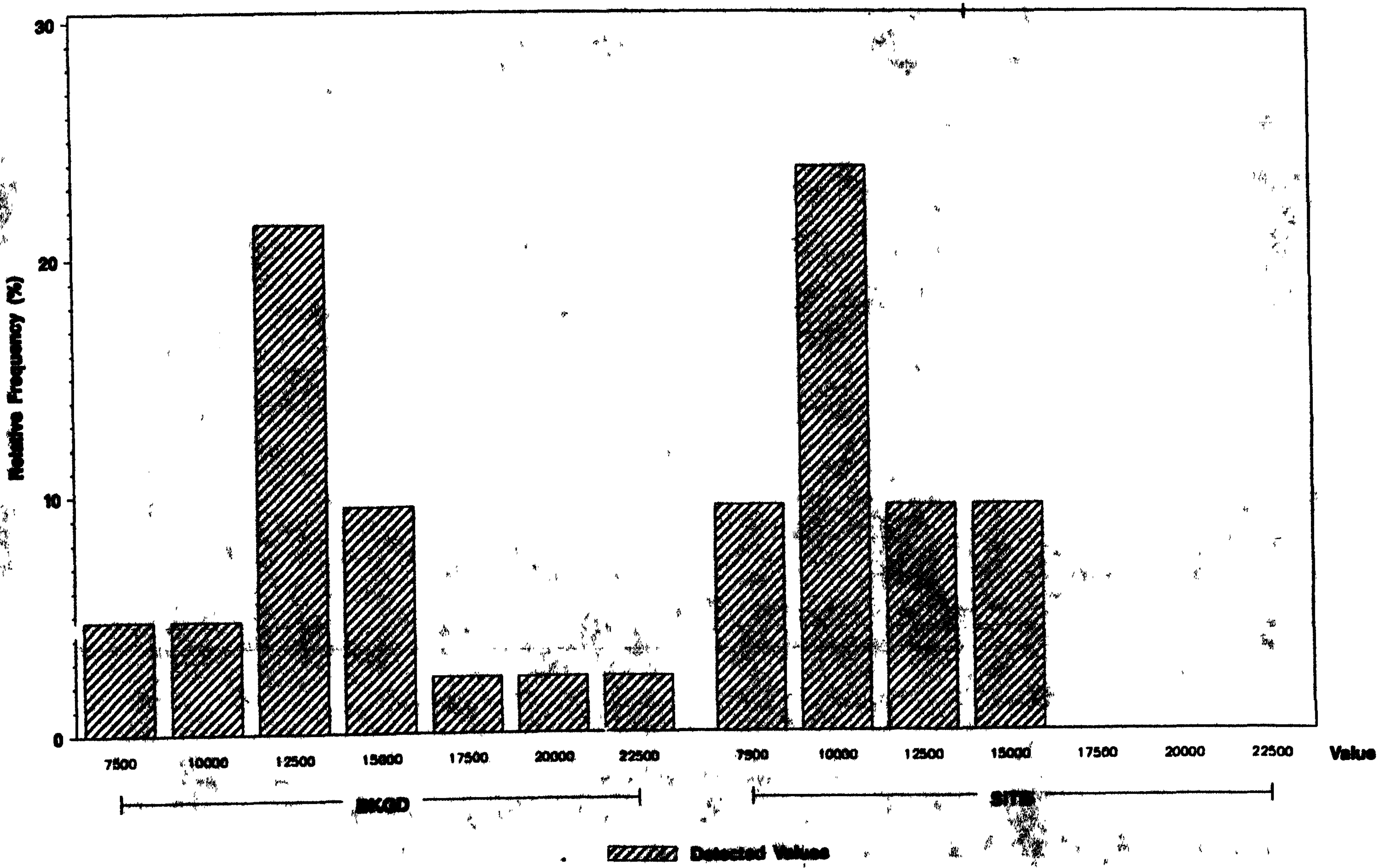
ANALYTE = ARSENIC



Background vs IHSS 114 Frequency Histogram

ALUMINUM (mg/Kg) in Surface Soils (0 – 2 inches)

ANALYTE = ALUMINUM



Surface Soils

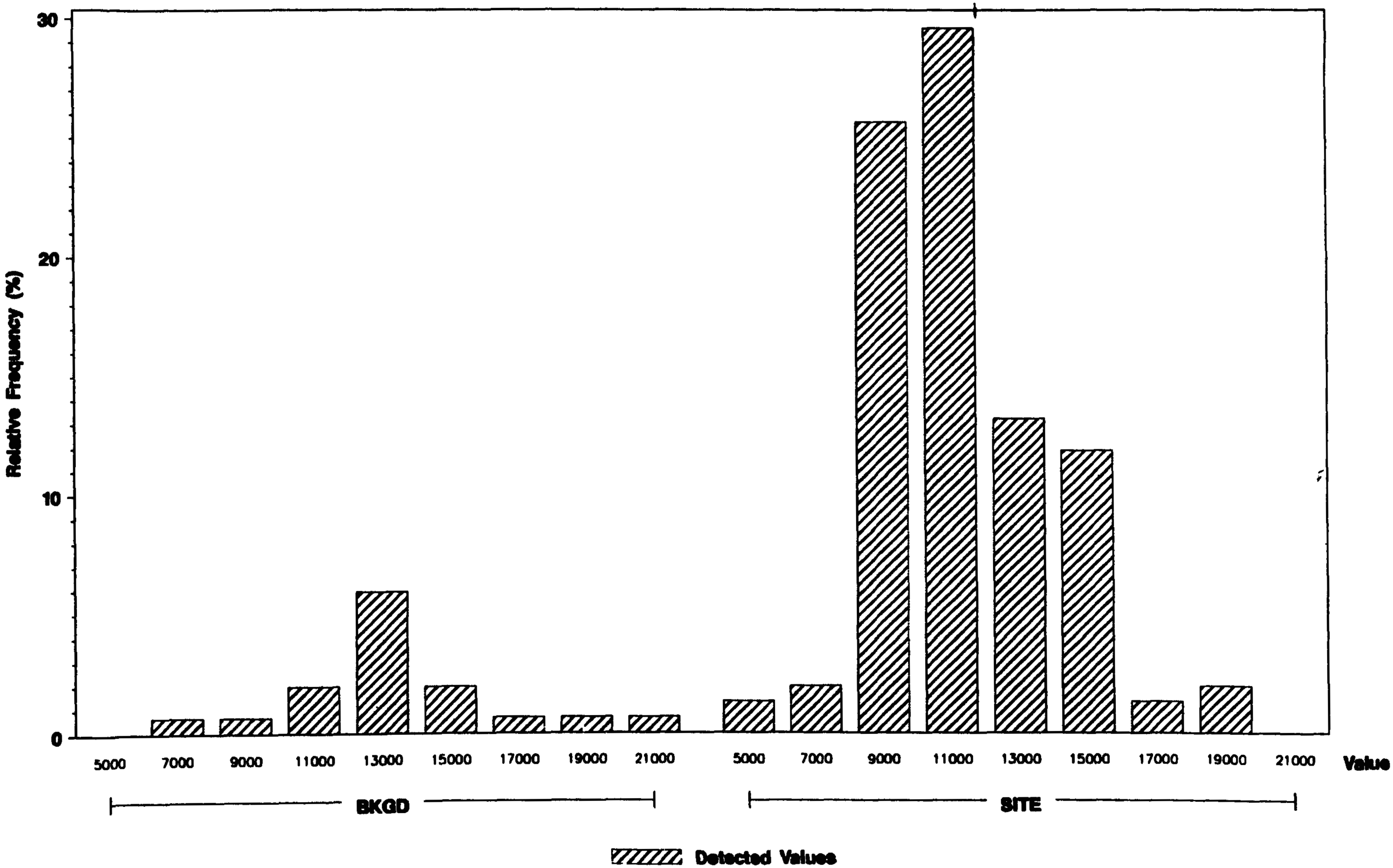
Background vs East Landfill Pond

(0 to 2 inches)

Background vs East Landfill Pond Frequency Histogram

ALUMINUM (mg/Kg) in Surface Soils (0 – 2 inches)

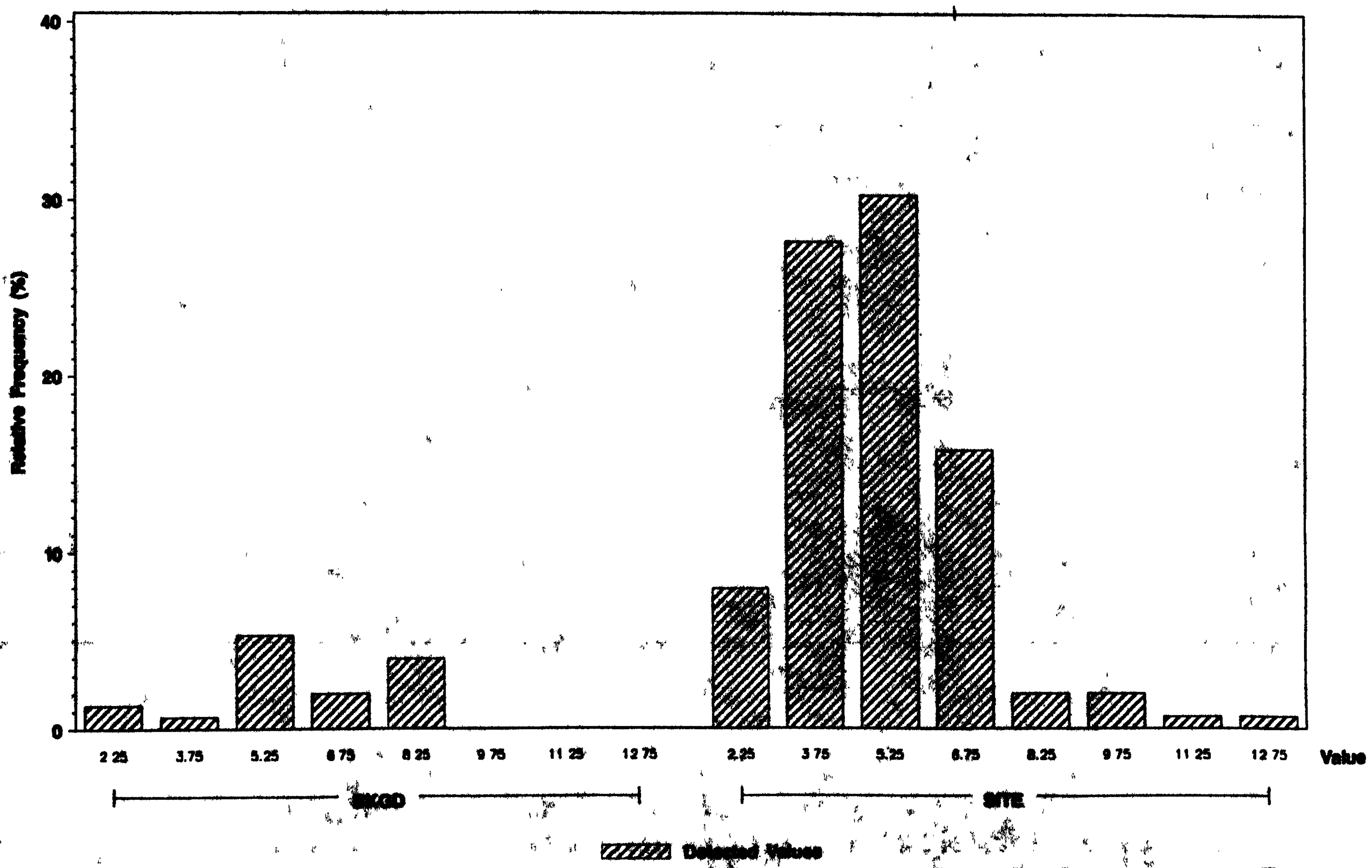
ANALYTE = ALUMINUM



Background vs East Landfill Pond Frequency Histogram

ARSENIC (mg/Kg) In Surface Soils (0–2 inches)

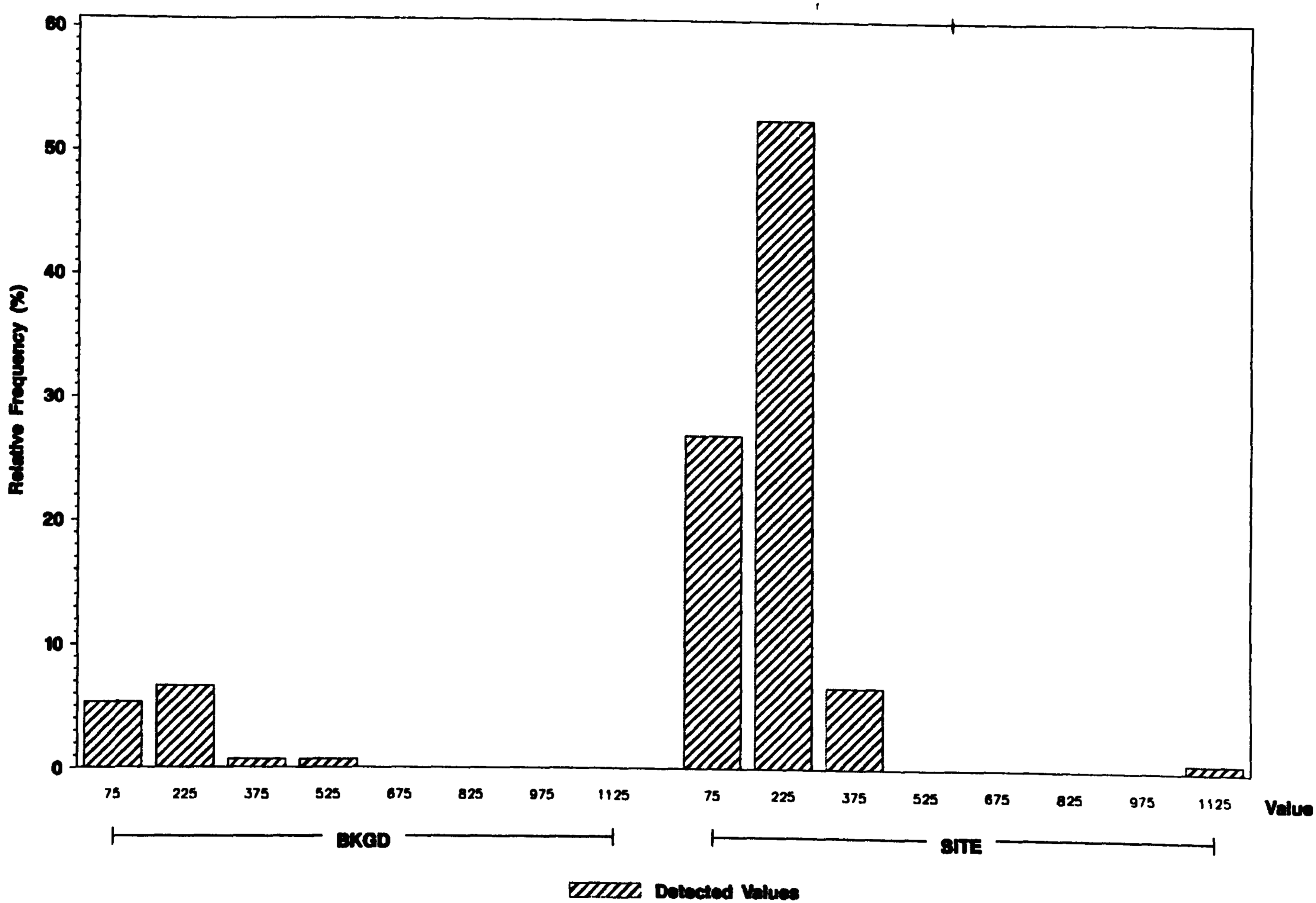
ANALYTE = ARSENIC



Background vs East Landfill Pond Frequency Histogram

BARIUM (mg/Kg) in Surface Soils (0-2 inches)

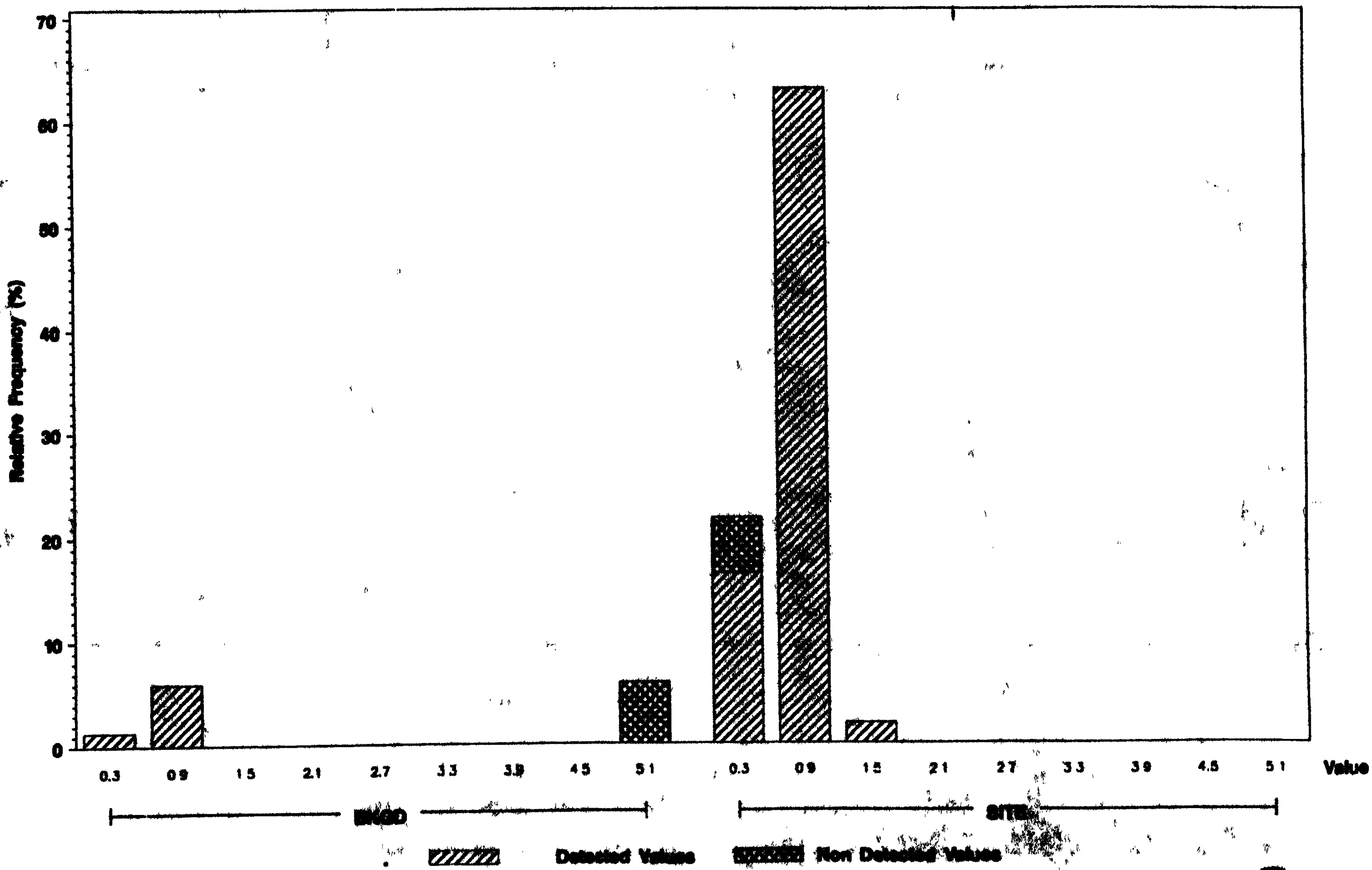
ANALYTE=BARIUM



Background vs East Landfill Pond Frequency Histogram

BERYLLIUM (mg/Kg) in Surface Soils (0-2 Inches)

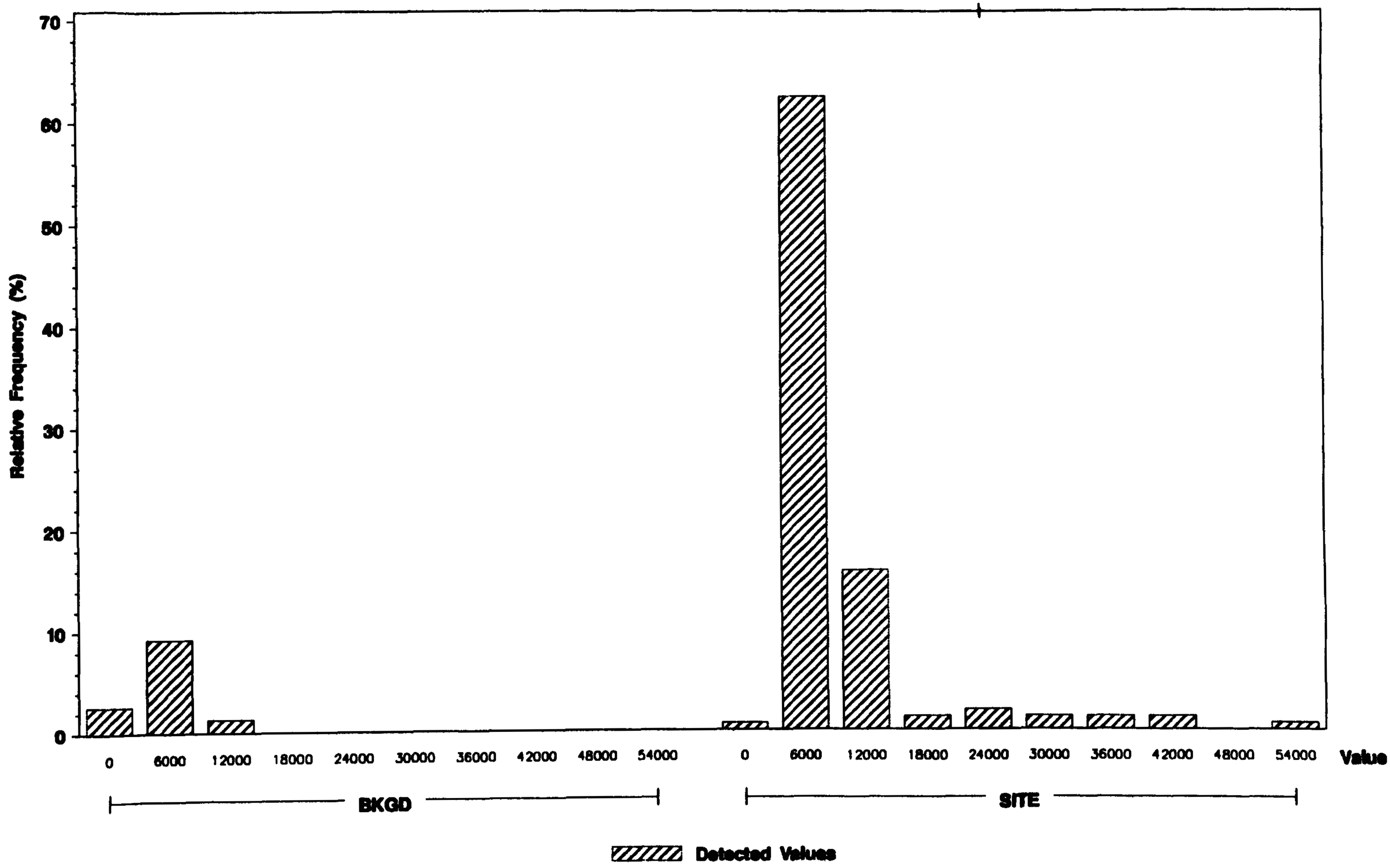
ANALYTE=BERYLLIUM



Background vs East Landfill Pond Frequency Histogram

CALCIUM (mg/Kg) in Surface Soils (0 – 2 inches)

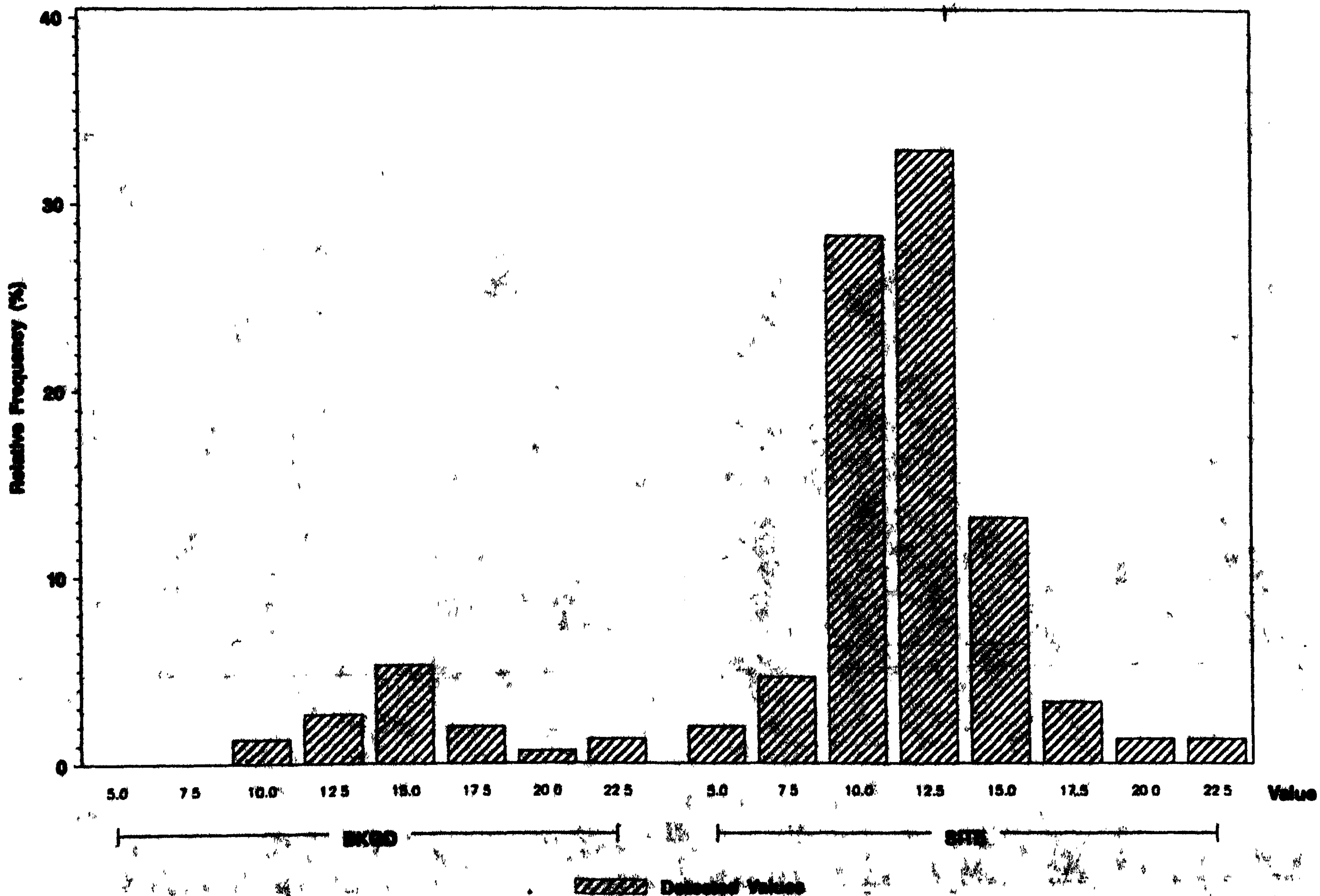
ANALYTE=CALCIUM



Background vs East Landfill Pond Frequency Histogram

CHROMIUM (mg/Kg) in Surface Soils (0 – 2 Inches)

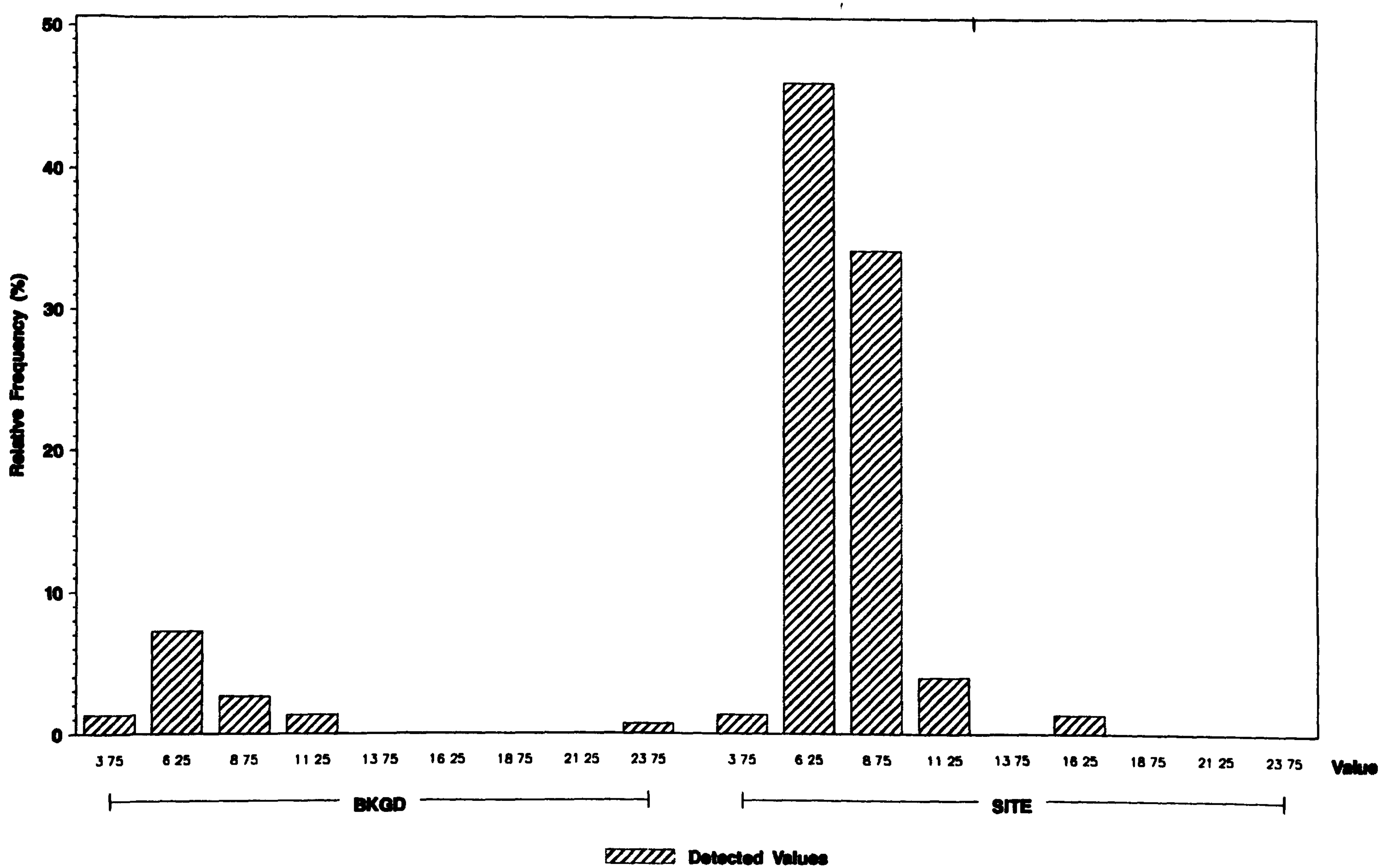
ANALYTE = CHROMIUM



Background vs East Landfill Pond Frequency Histogram

COBALT (mg/Kg) in Surface Soils (0 – 2 inches)

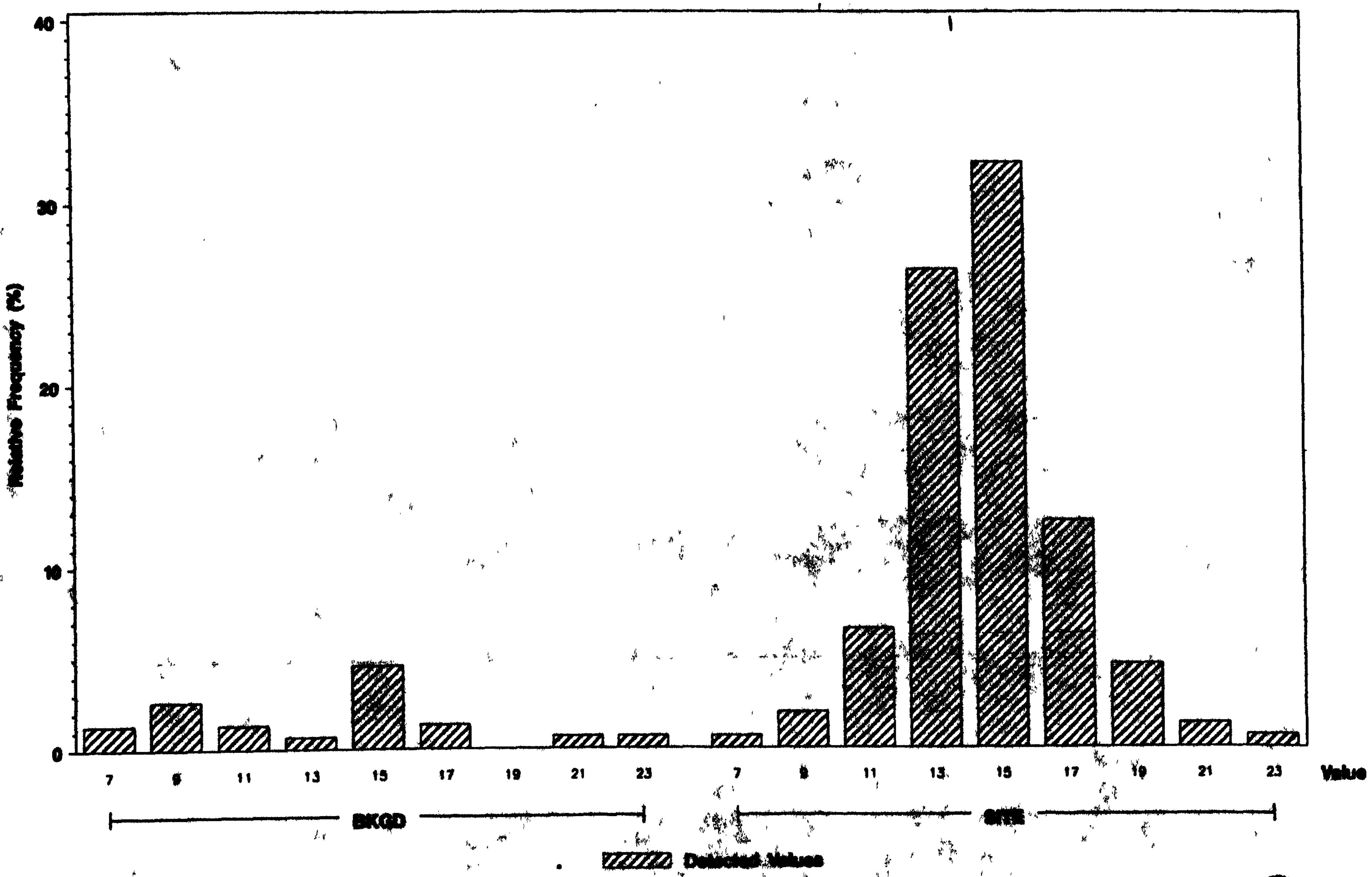
ANALYTE = COBALT



Background vs East Landfill Pond Frequency Histogram

COPPER (mg/Kg) in Surface Soils (0 – 2 inches)

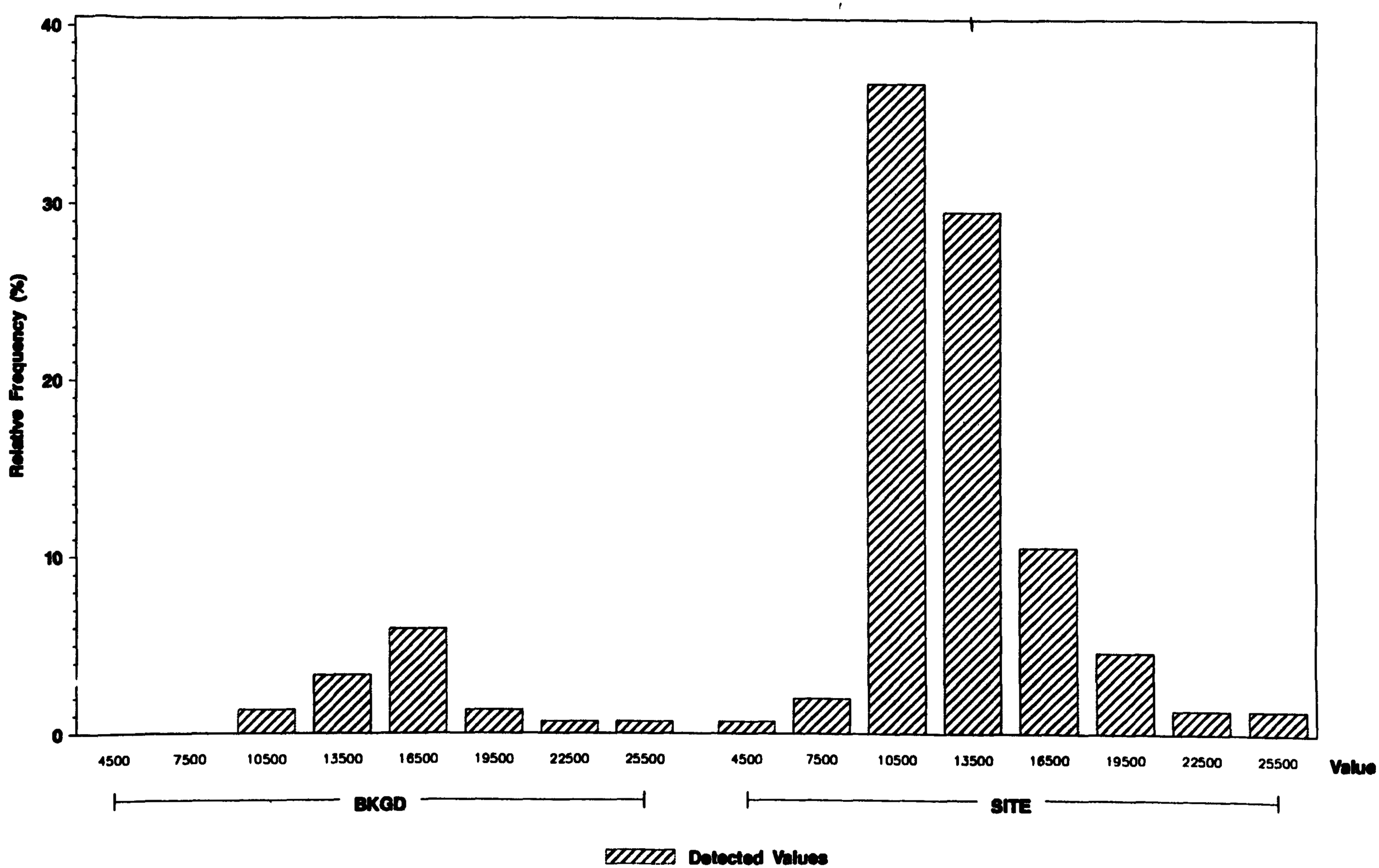
ANALYTE=COPPER



Background vs East Landfill Pond Frequency Histogram

IRON (mg/Kg) in Surface Soils (0 – 2 inches)

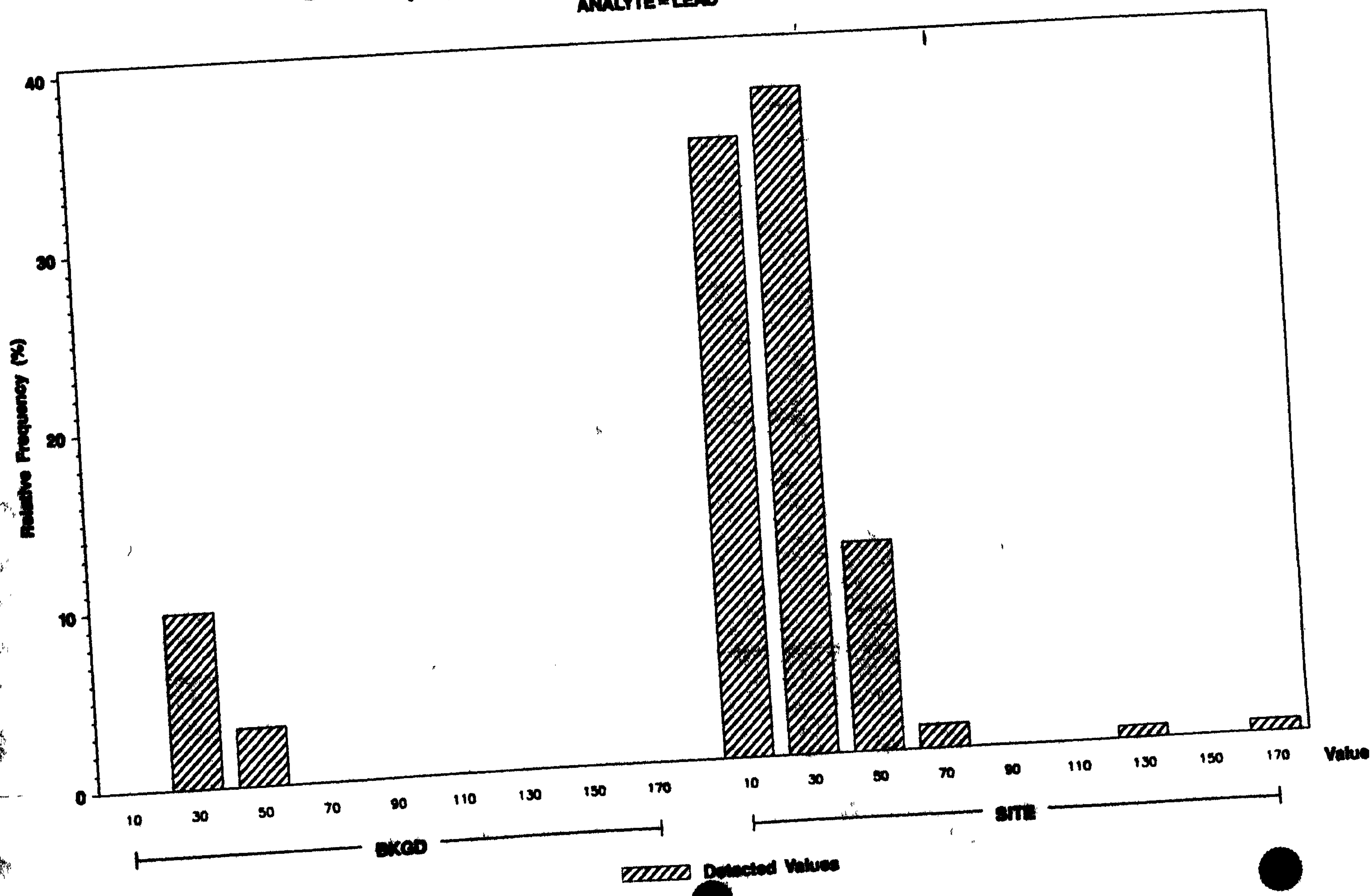
ANALYTE = IRON



Background vs East Landfill Pond Frequency Histogram

LEAD (mg/Kg) in Surface Soils (0 – 2 inches)

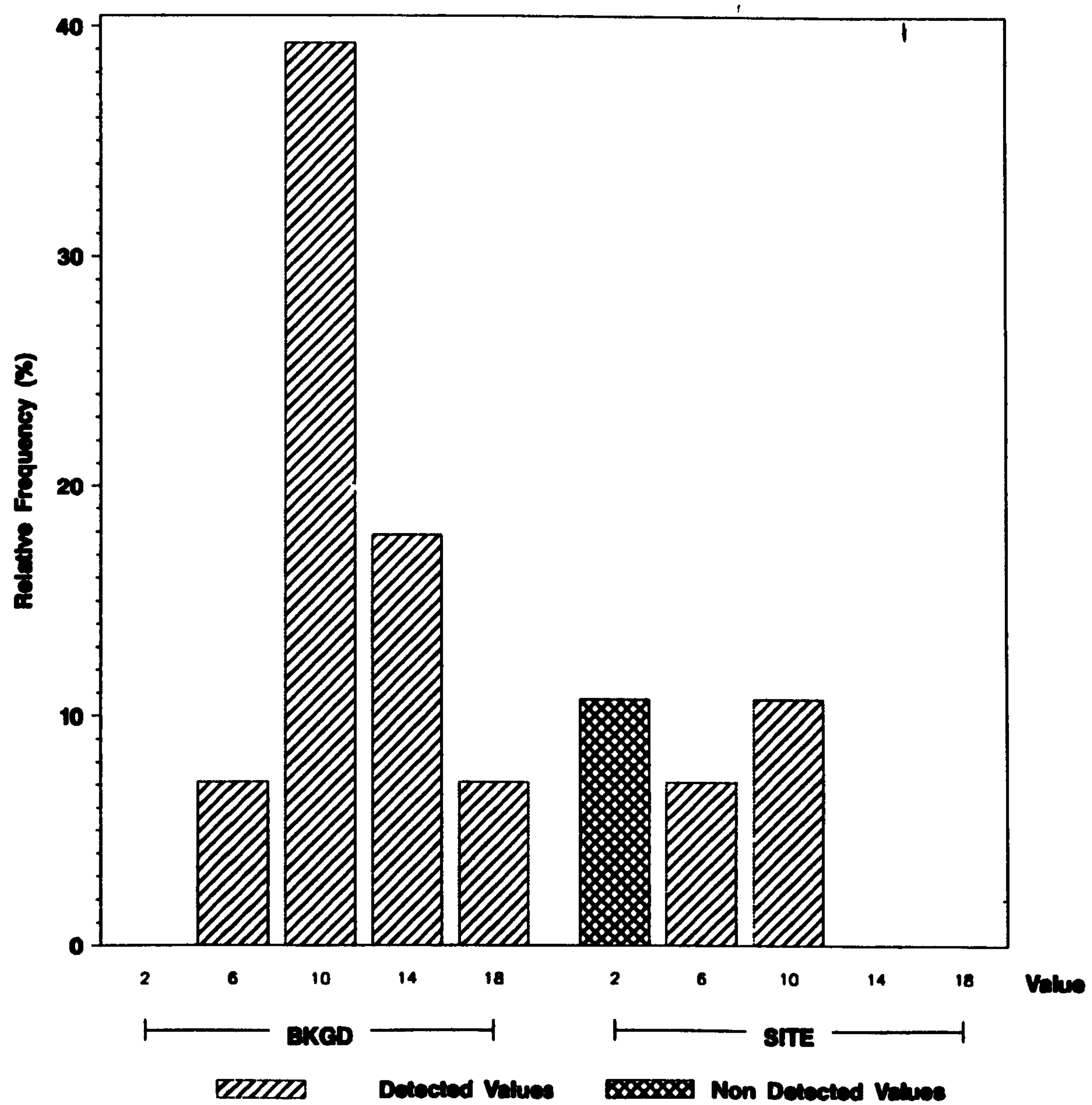
ANALYTE=LEAD



Background vs East Landfill Pond Frequency Histogram

LITHIUM (mg/Kg) in Surface Soils (0-2 inches)

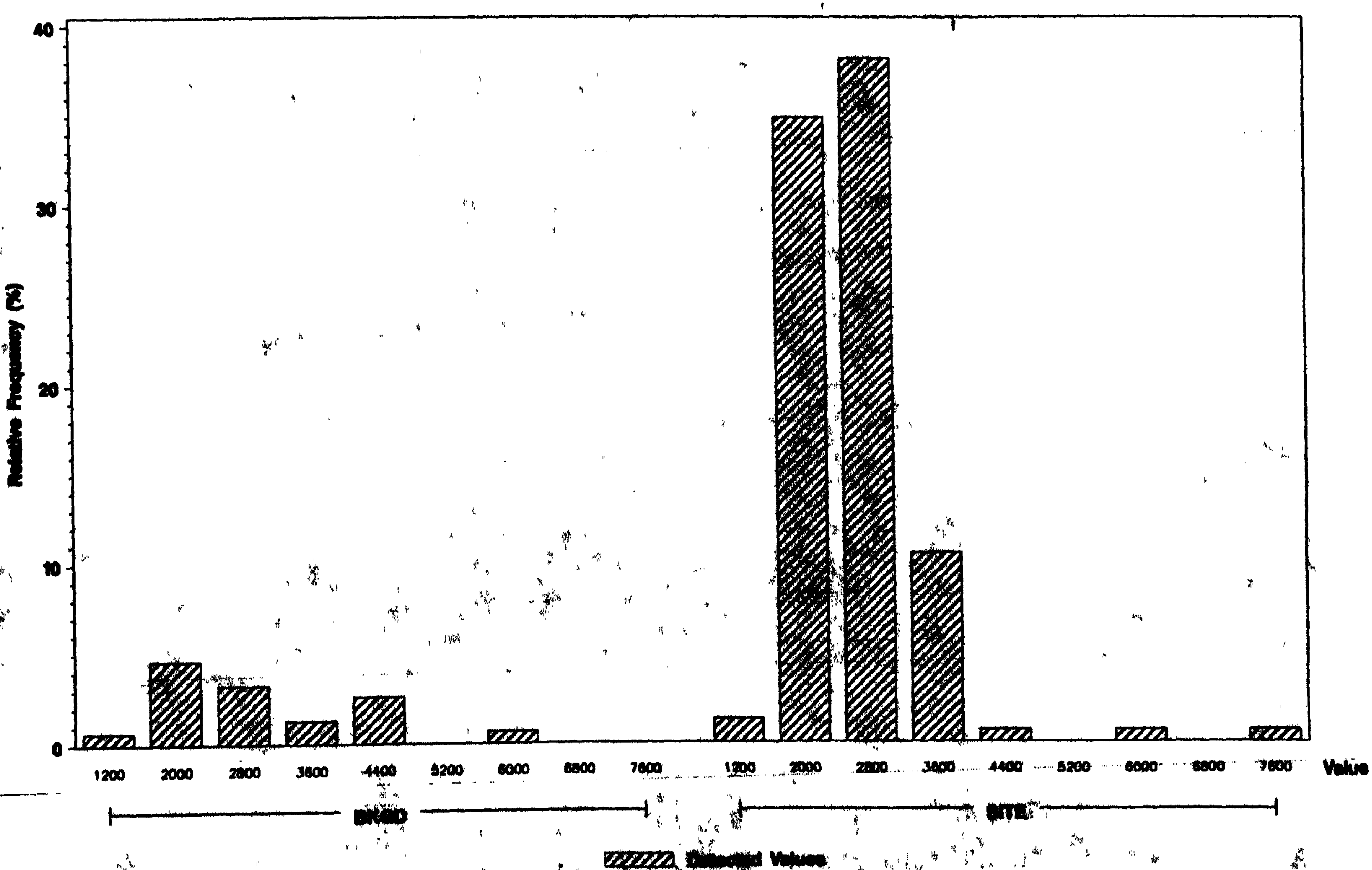
ANALYTE=LITHIUM



Background vs East Landfill Pond Frequency Histogram

MAGNESIUM (mg/Kg) In Surface Soils (0 – 2 Inches)

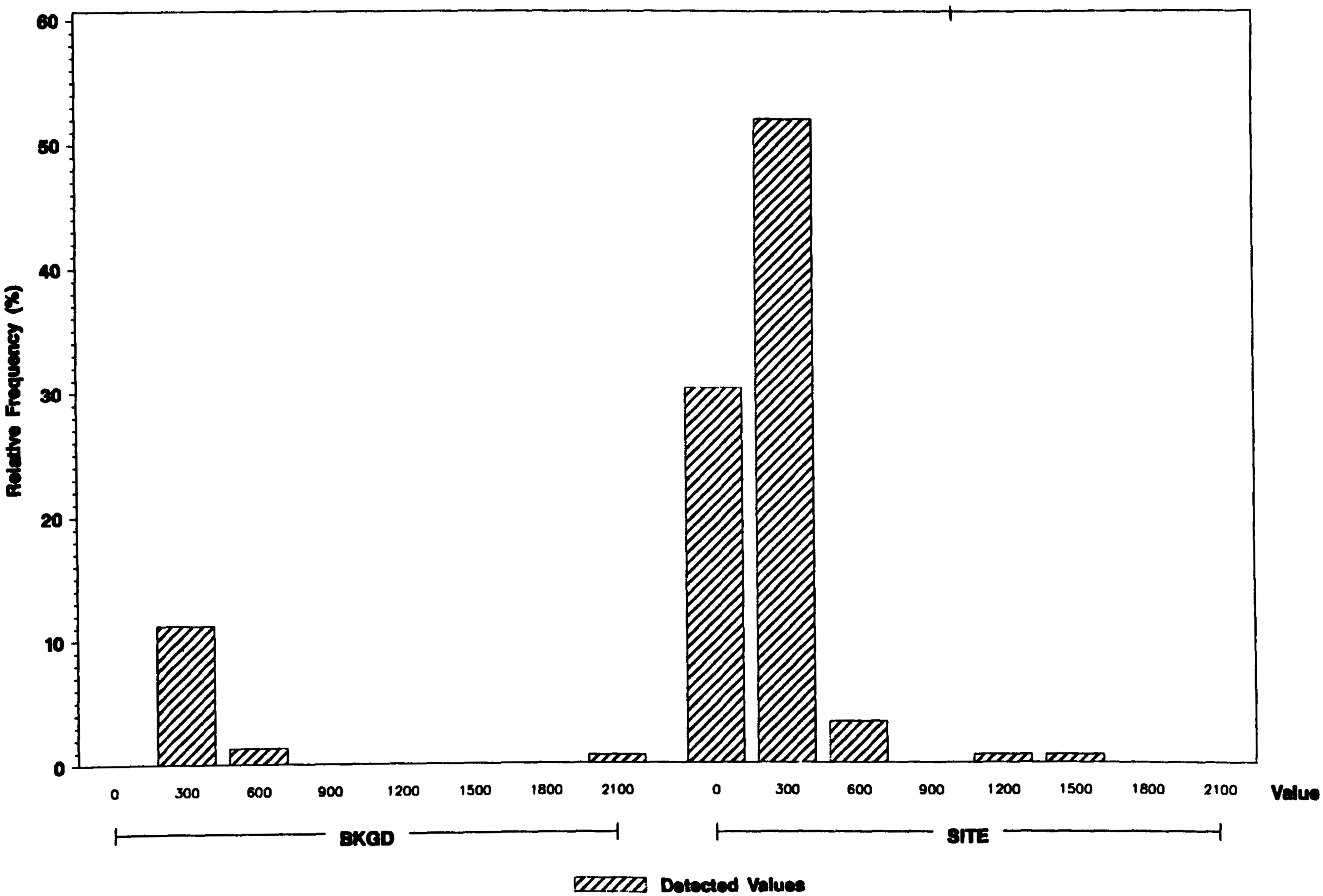
ANALYTE = MAGNESIUM



Background vs East Landfill Pond Frequency Histogram

MANGANESE (mg/Kg) in Surface Soils (0-2 inches)

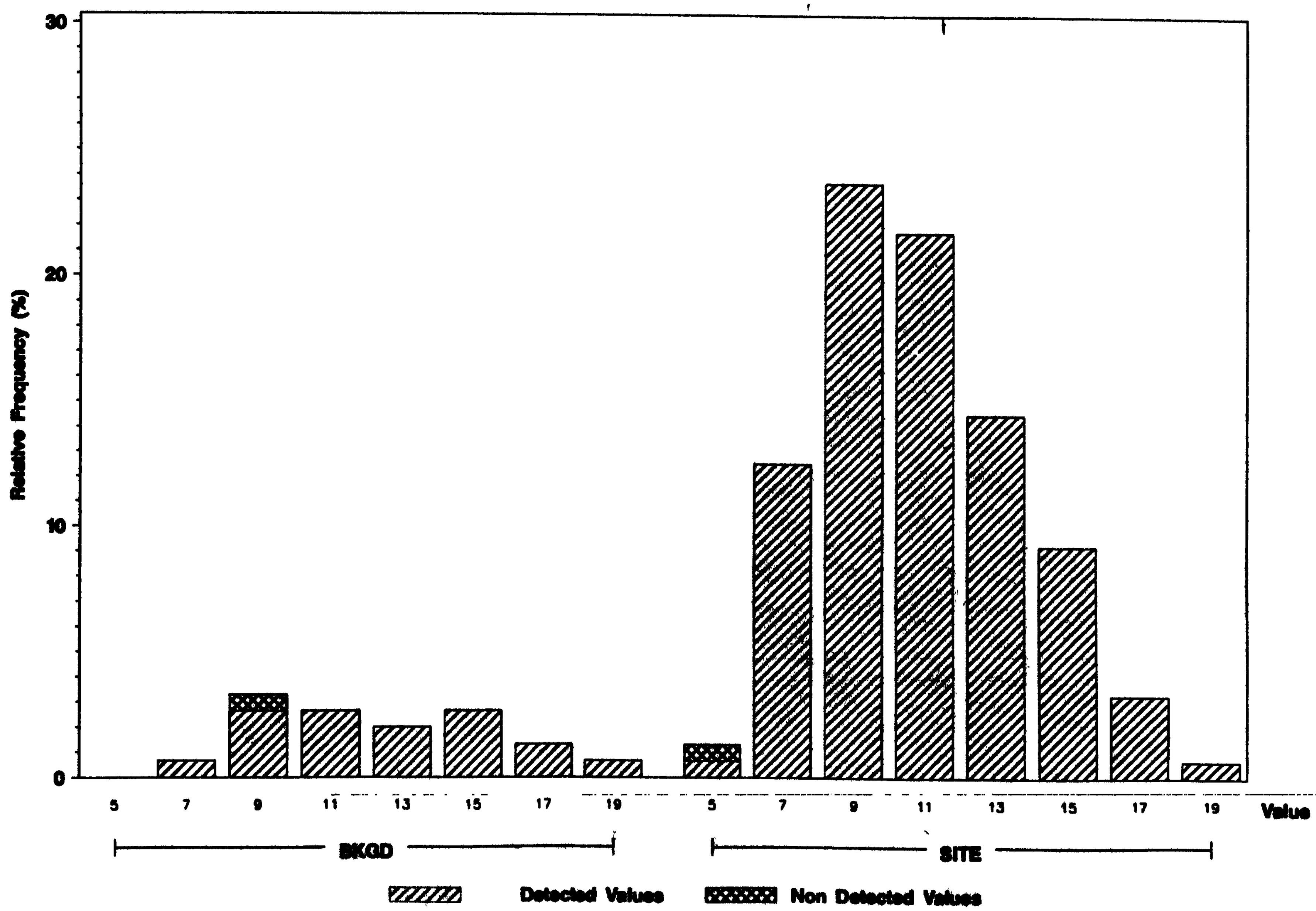
ANALYTE=MANGANESE



Background vs East Landfill Pond Frequency Histogram

NICKEL (mg/Kg) in Surface Soils (0 – 2 Inches)

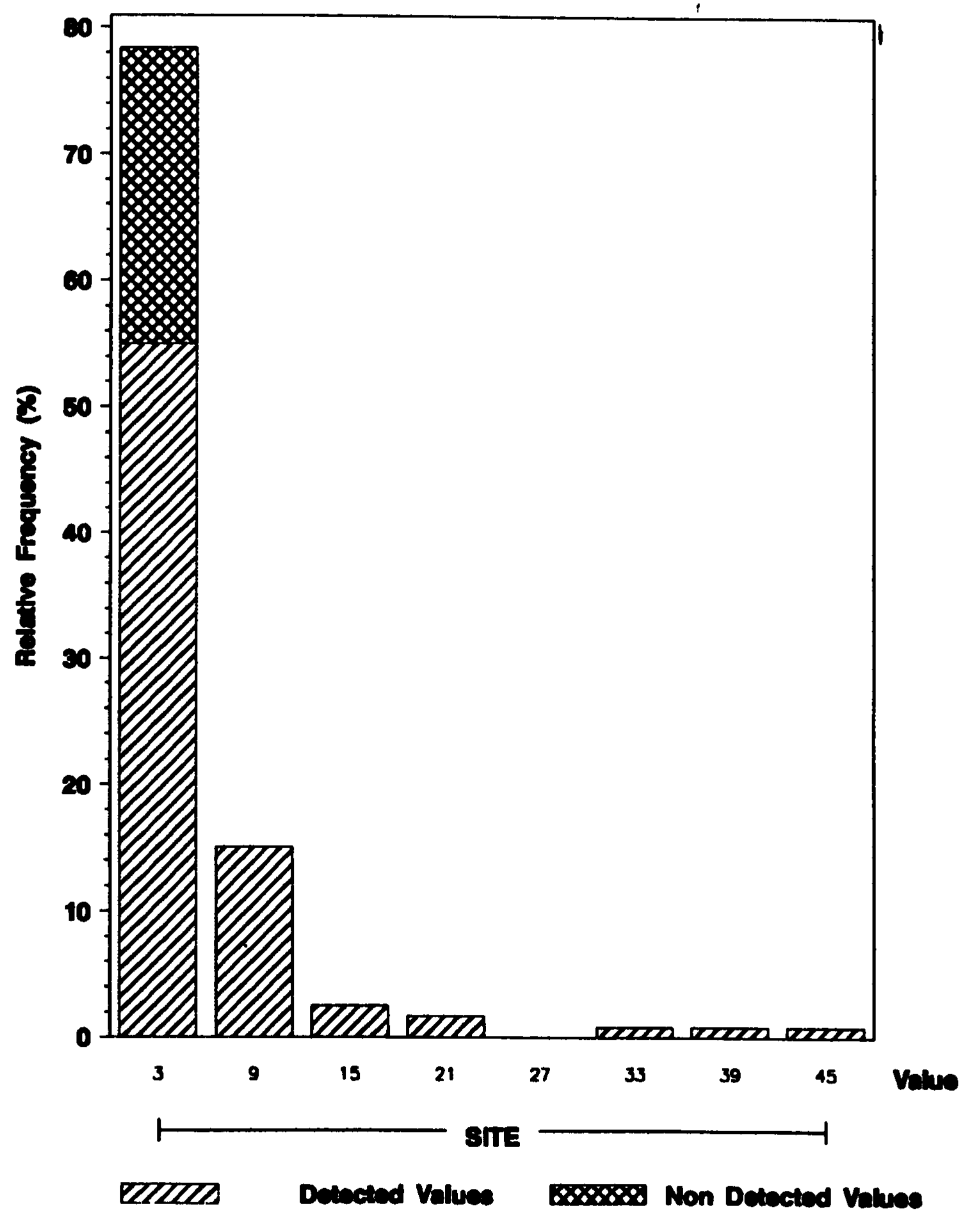
ANALYTE=NICKEL



Background vs East Landfill Pond Frequency Histogram

NITRATE/NITRITE (mg/Kg) in Surface Soils (0-2 inches)

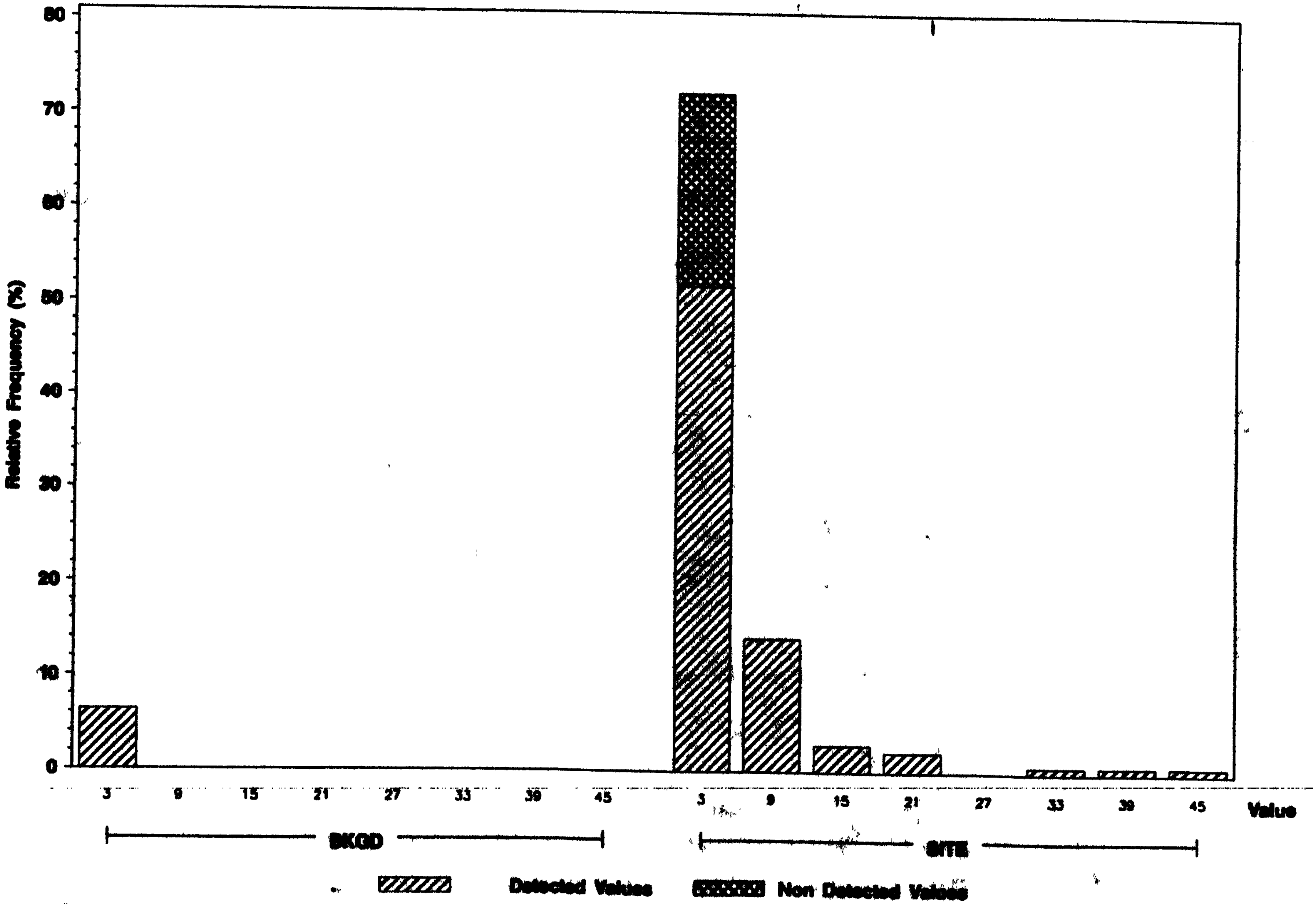
ANALYTE=NITRATE/NITRITE



Background vs East Landfill Pond Frequency Histogram

NITRATE/NITRITE (mg/Kg) in Surface Soils (0-2 inches)

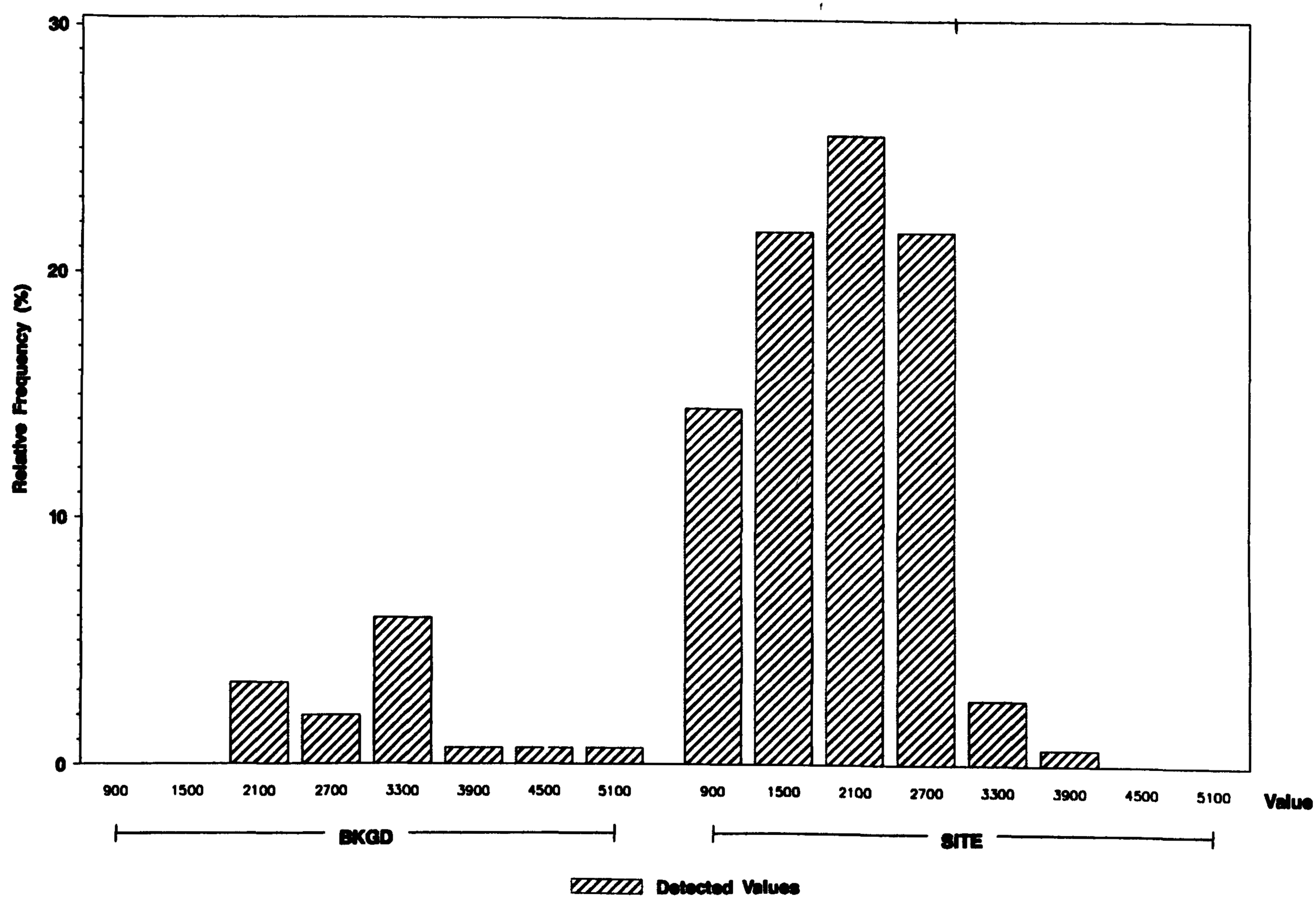
ANALYTE=NITRATE/NITRITE



Background vs East Landfill Pond Frequency Histogram

POTASSIUM (mg/Kg) in Surface Soils (0 – 2 inches)

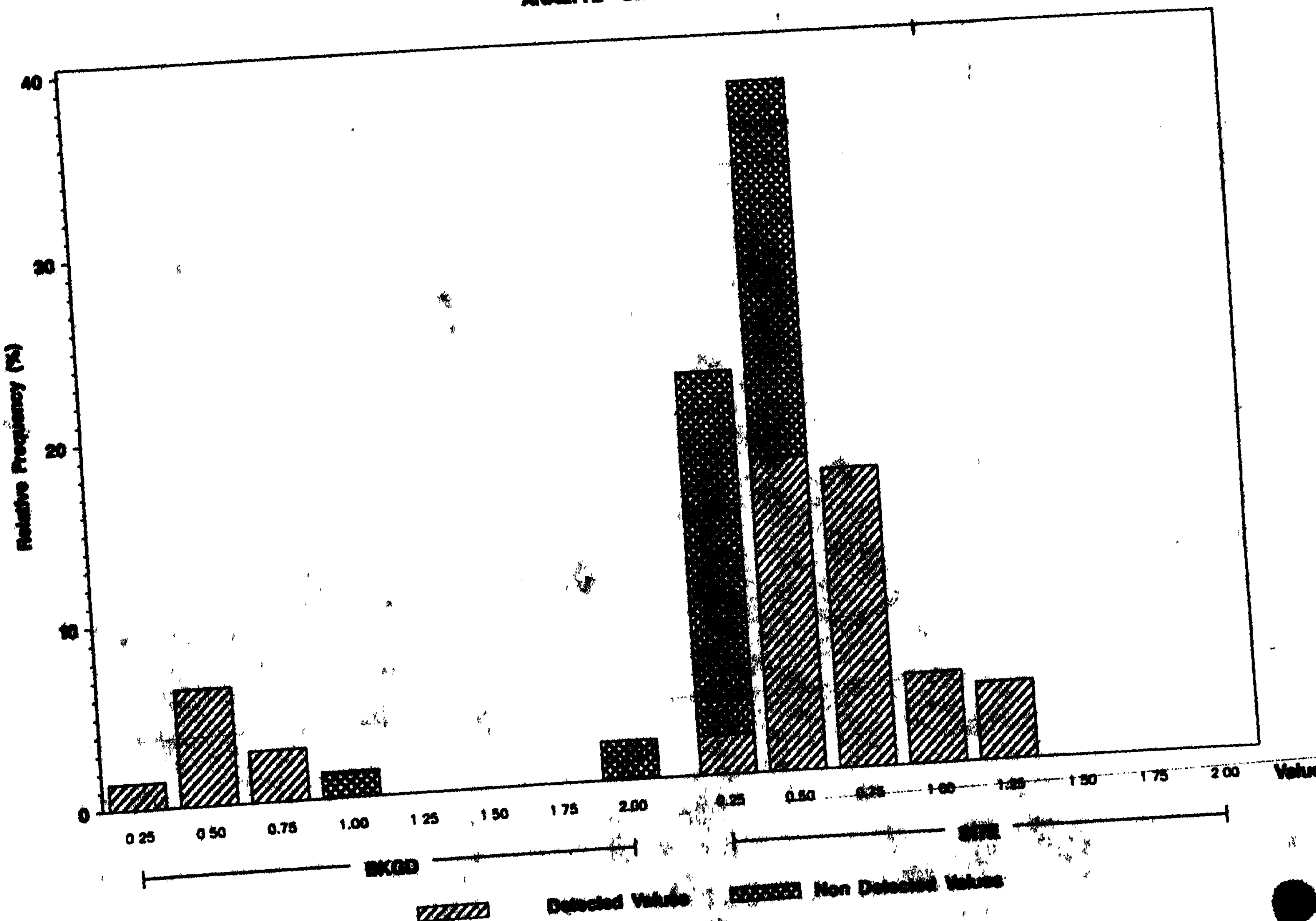
ANALYTE=POTASSIUM



Background vs East Landfill Pond Frequency Histogram

SELENIUM (mg/Kg) In Surface Soils (0–2 Inches)

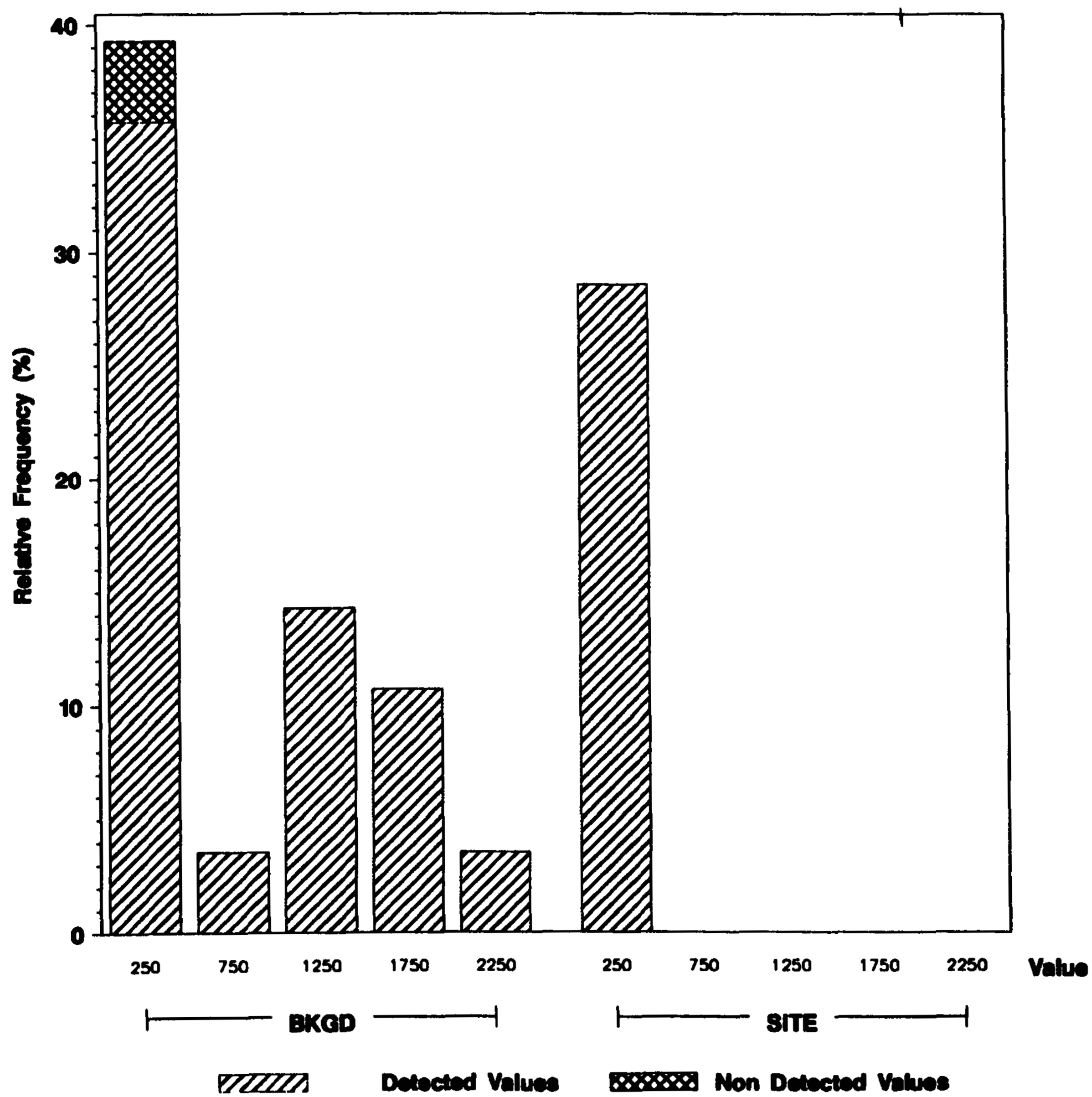
ANALYTE=SELENIUM



Background vs East Landfill Pond Frequency Histogram

SILICON (mg/Kg) in Surface Soils (0–2 inches)

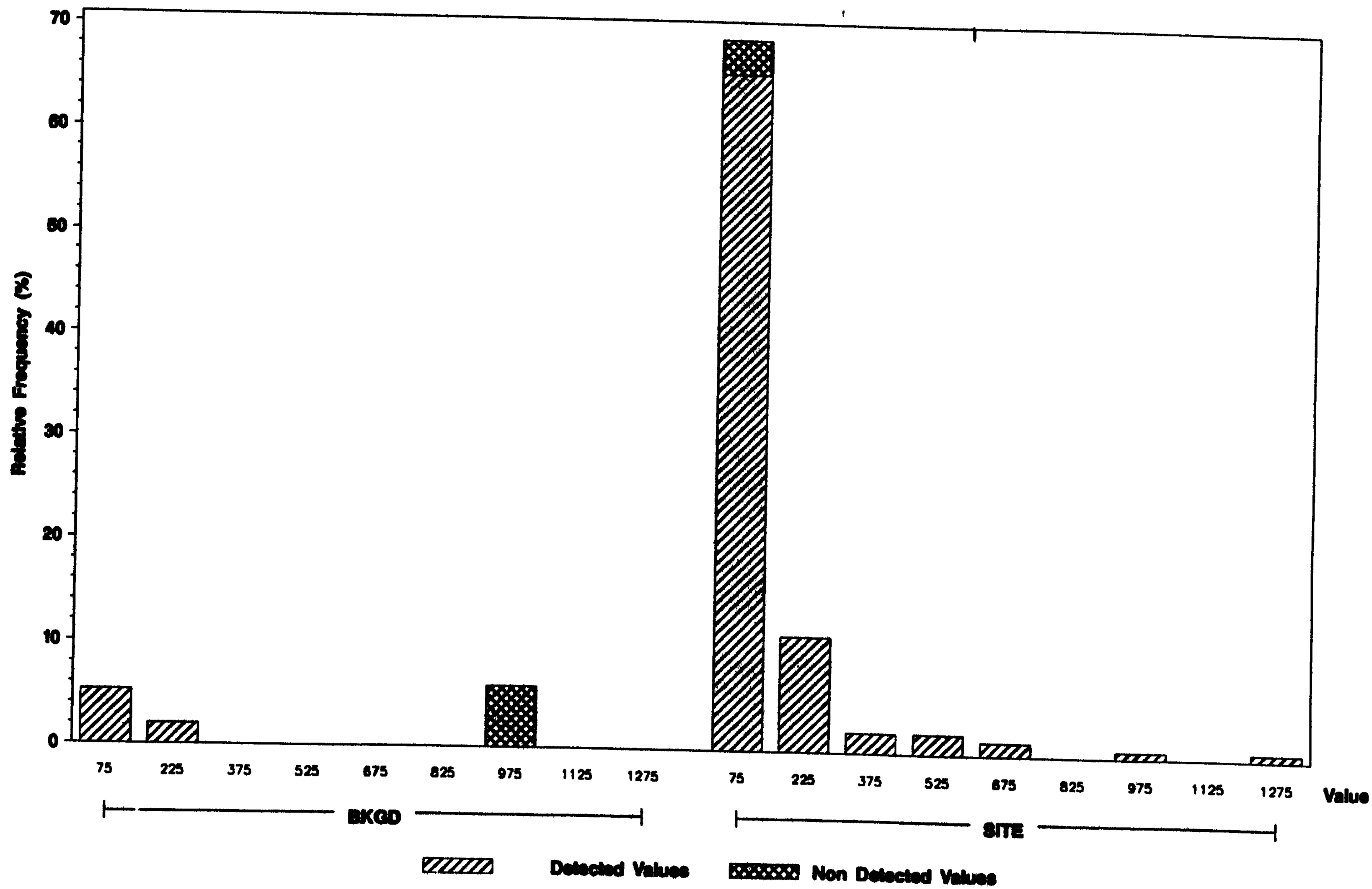
ANALYTE=SILICON



Background vs East Landfill Pond Frequency Histogram

SODIUM (mg/Kg) in Surface Soils (0 – 2 inches)

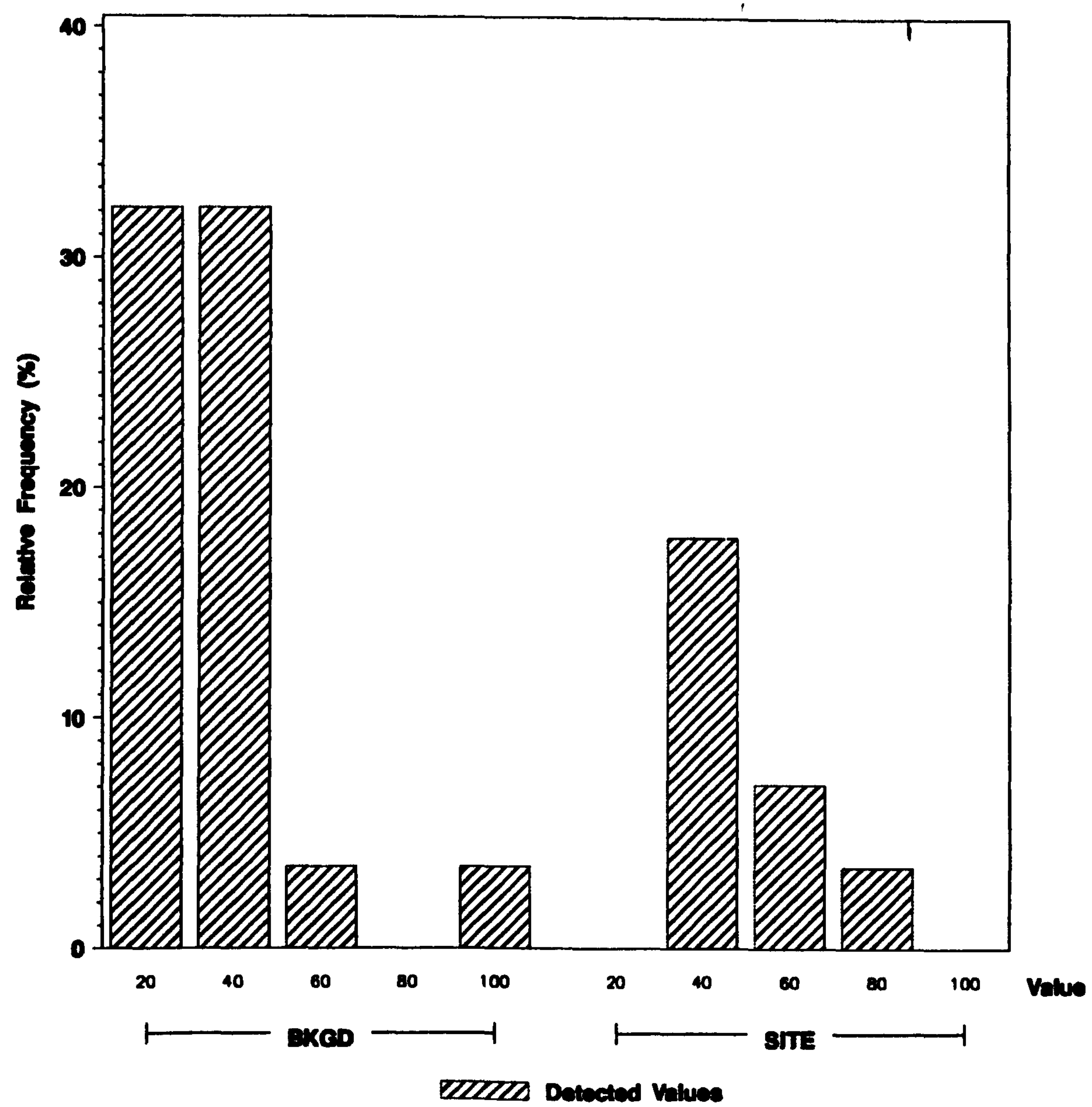
ANALYTE = SODIUM



Background vs East Landfill Pond Frequency Histogram

STRONTIUM (mg/Kg) in Surface Soils (0 – 2 inches)

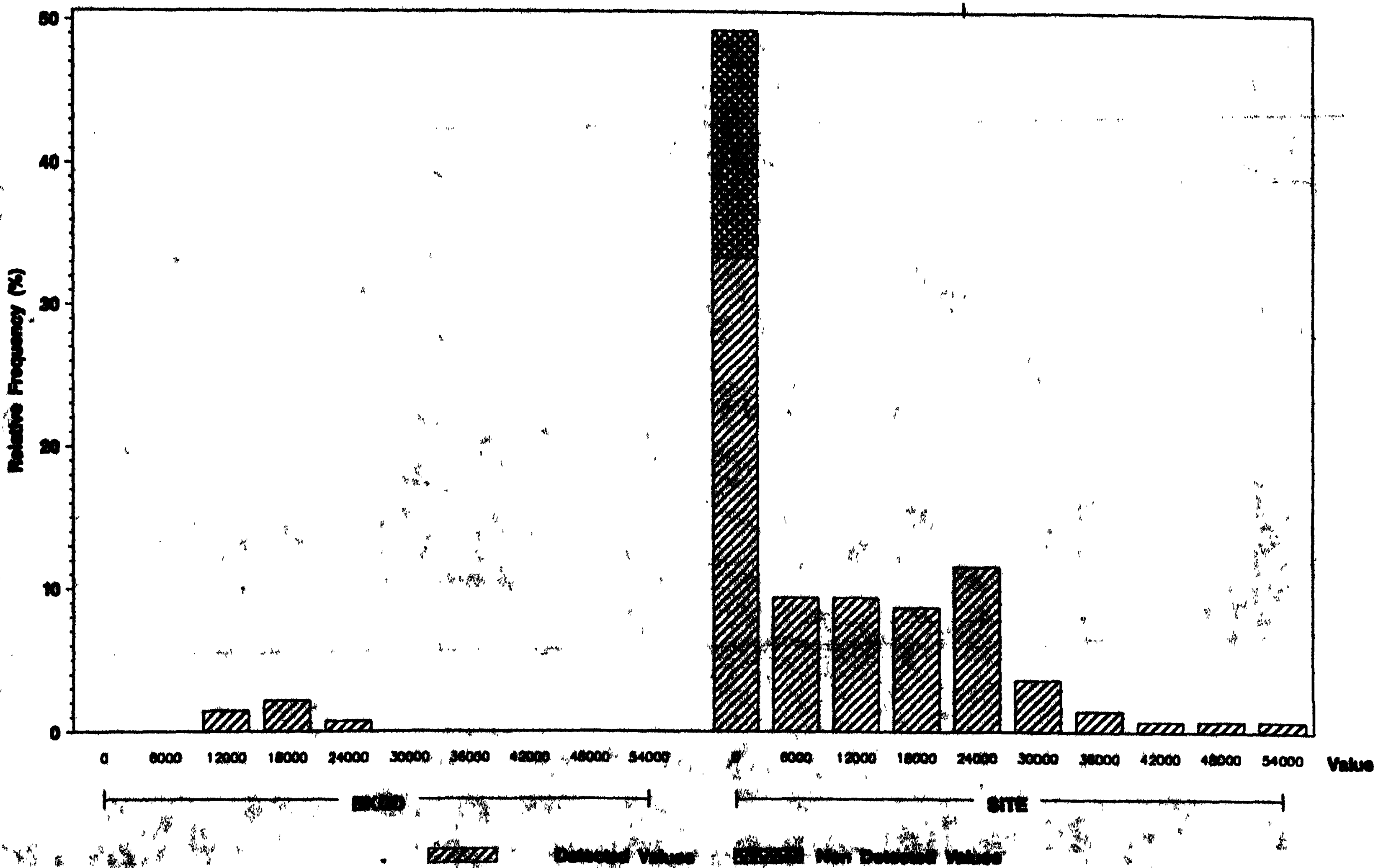
ANALYTE=STRONTIUM



Background vs East Landfill Pond Frequency Histogram

TOTAL ORGANIC CARBON (mg/Kg) In Surface Soils (0 – 2 Inches)

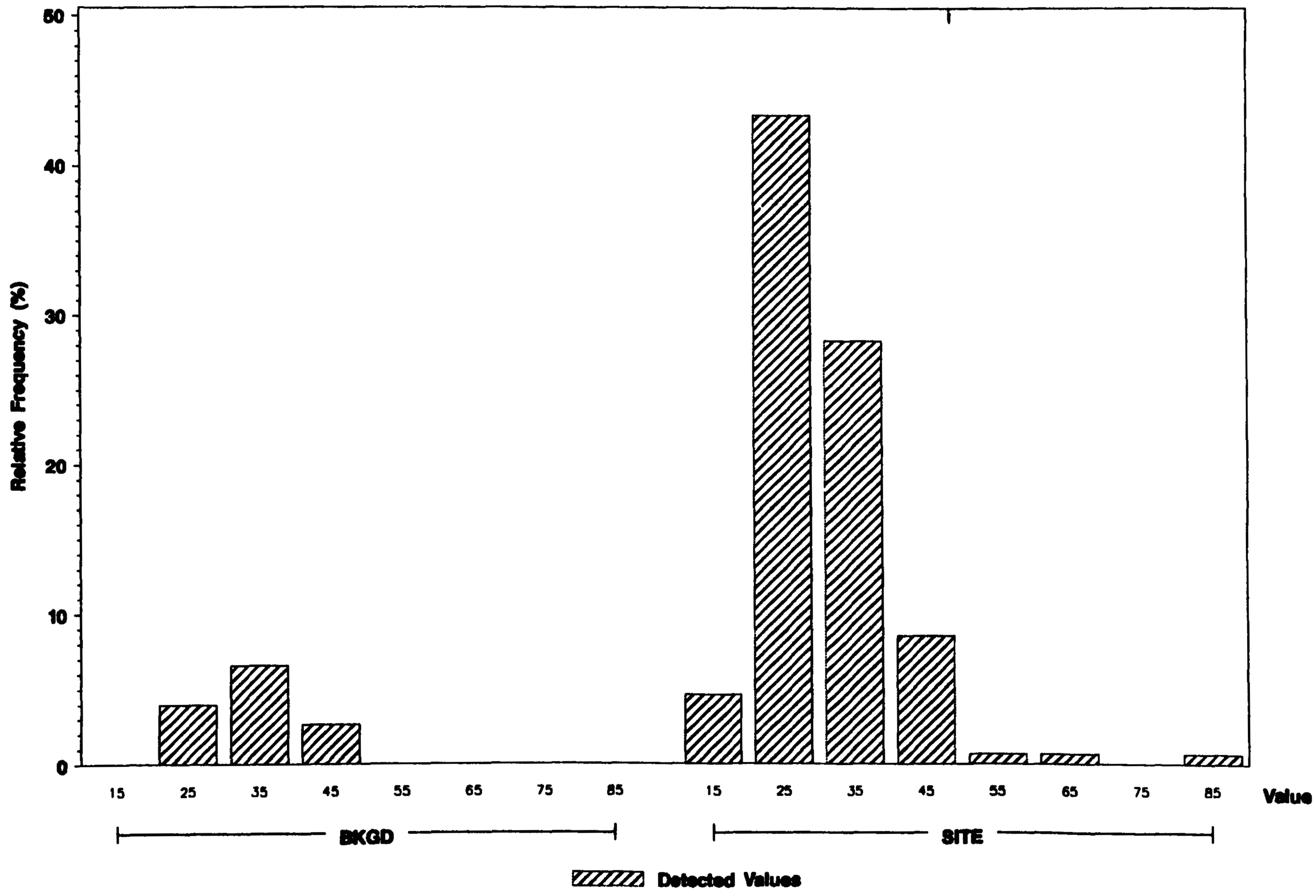
ANALYTE = TOTAL ORGANIC CARBON



Background vs East Landfill Pond Frequency Histogram

VANADIUM (mg/Kg) in Surface Soils (0 – 2 inches)

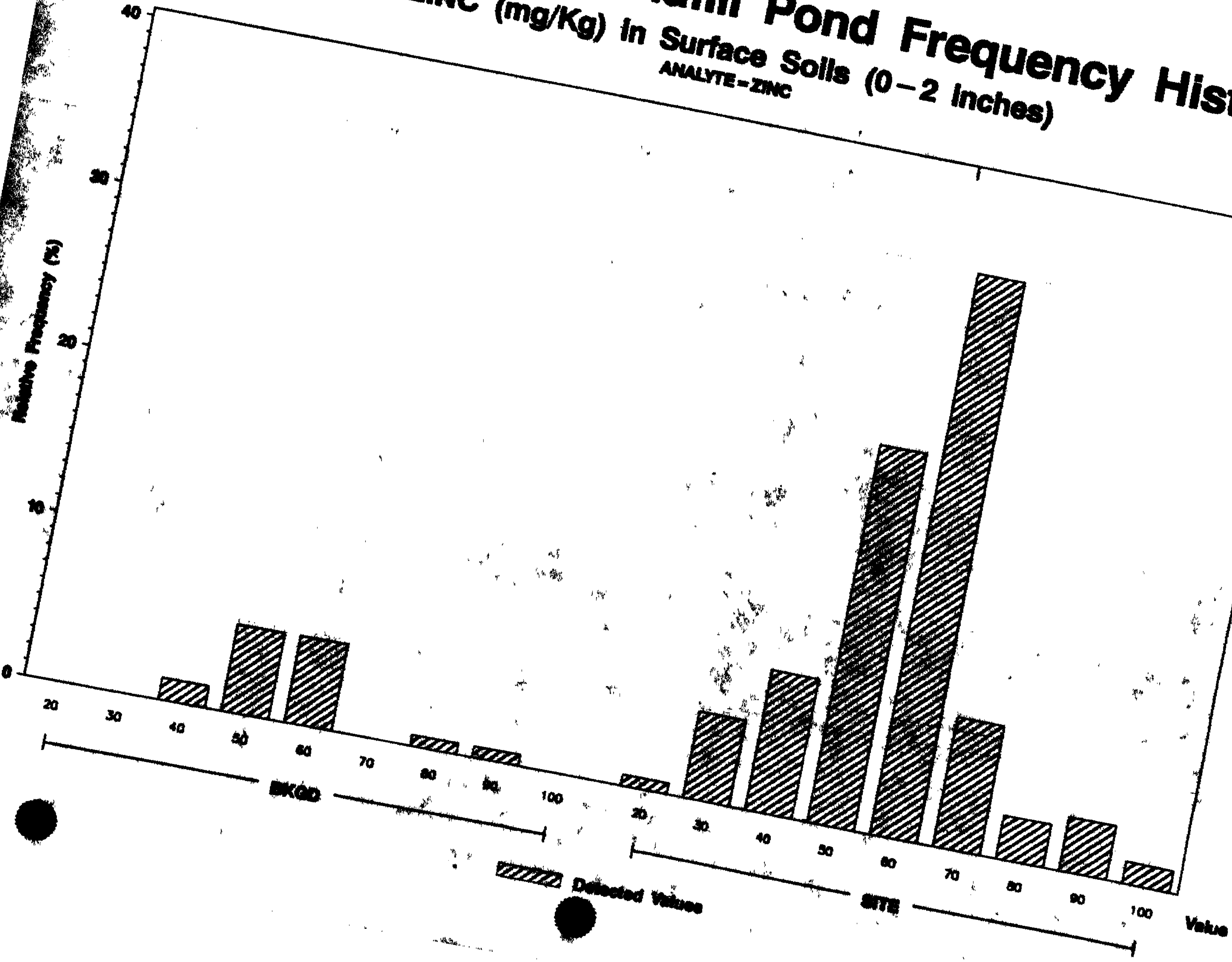
ANALYTE = VANADIUM



Background vs East Landfill Pond Frequency Histogram

ZINC (mg/Kg) in Surface Soils (0–2 inches)

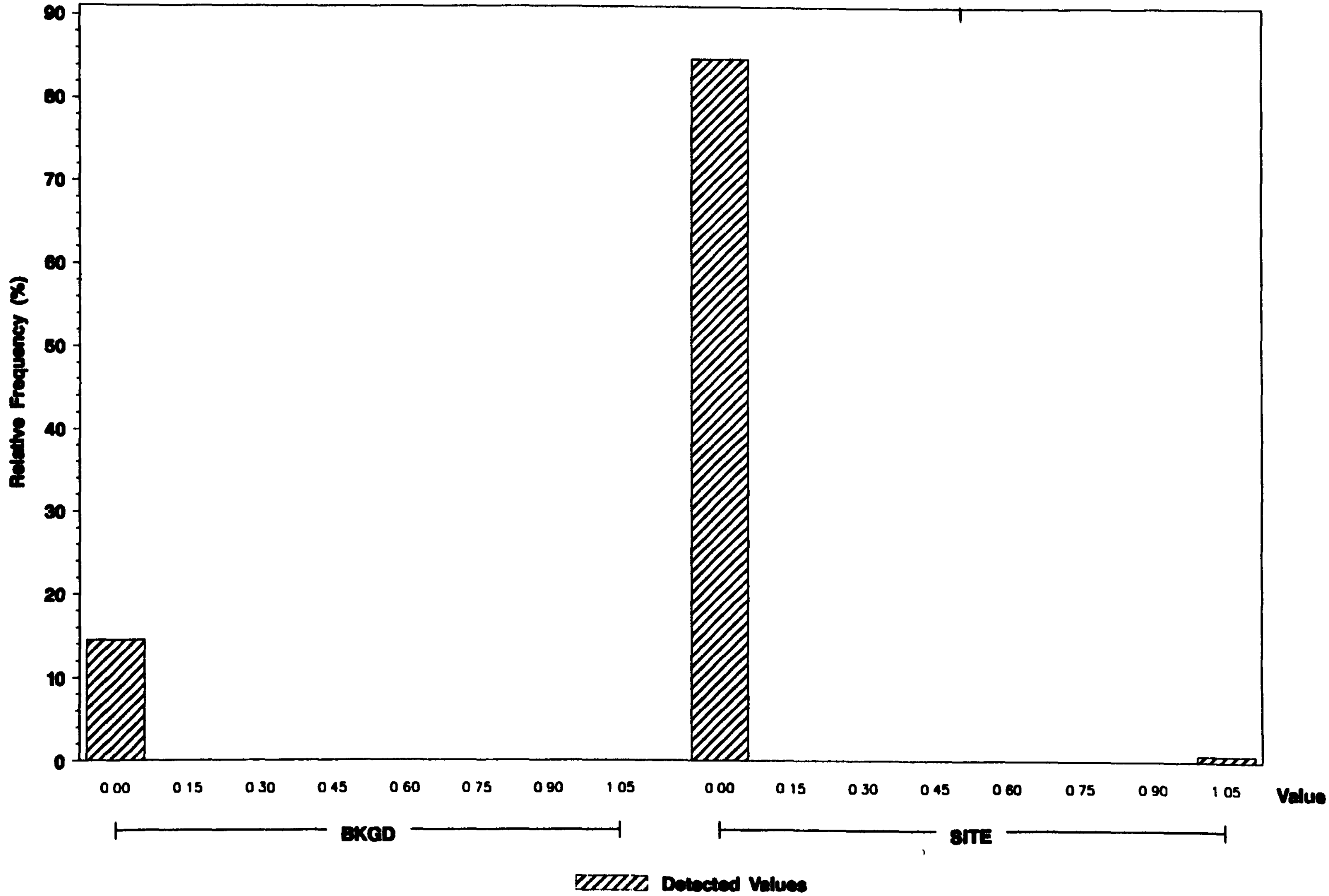
ANALYTE=ZINC



Background vs East Landfill Pond Frequency Histogram

AMERICIUM-241 (pCi/g) in Surface Soils (0-2 Inches)

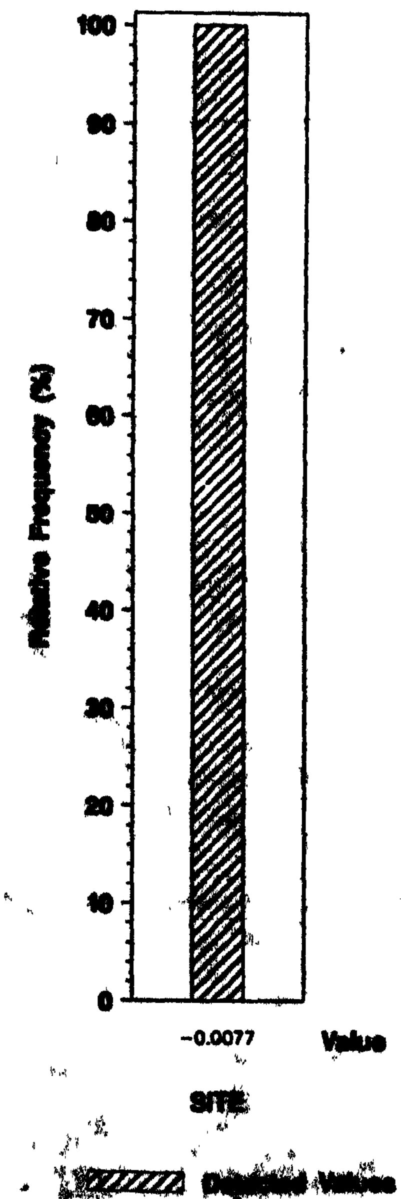
ANALYTE=AMERICIUM-241



Background vs East Landfill Pond Frequency Histogram

CESIUM – 134 (pCi/g) In Surface Soils (0 – 2 Inches)

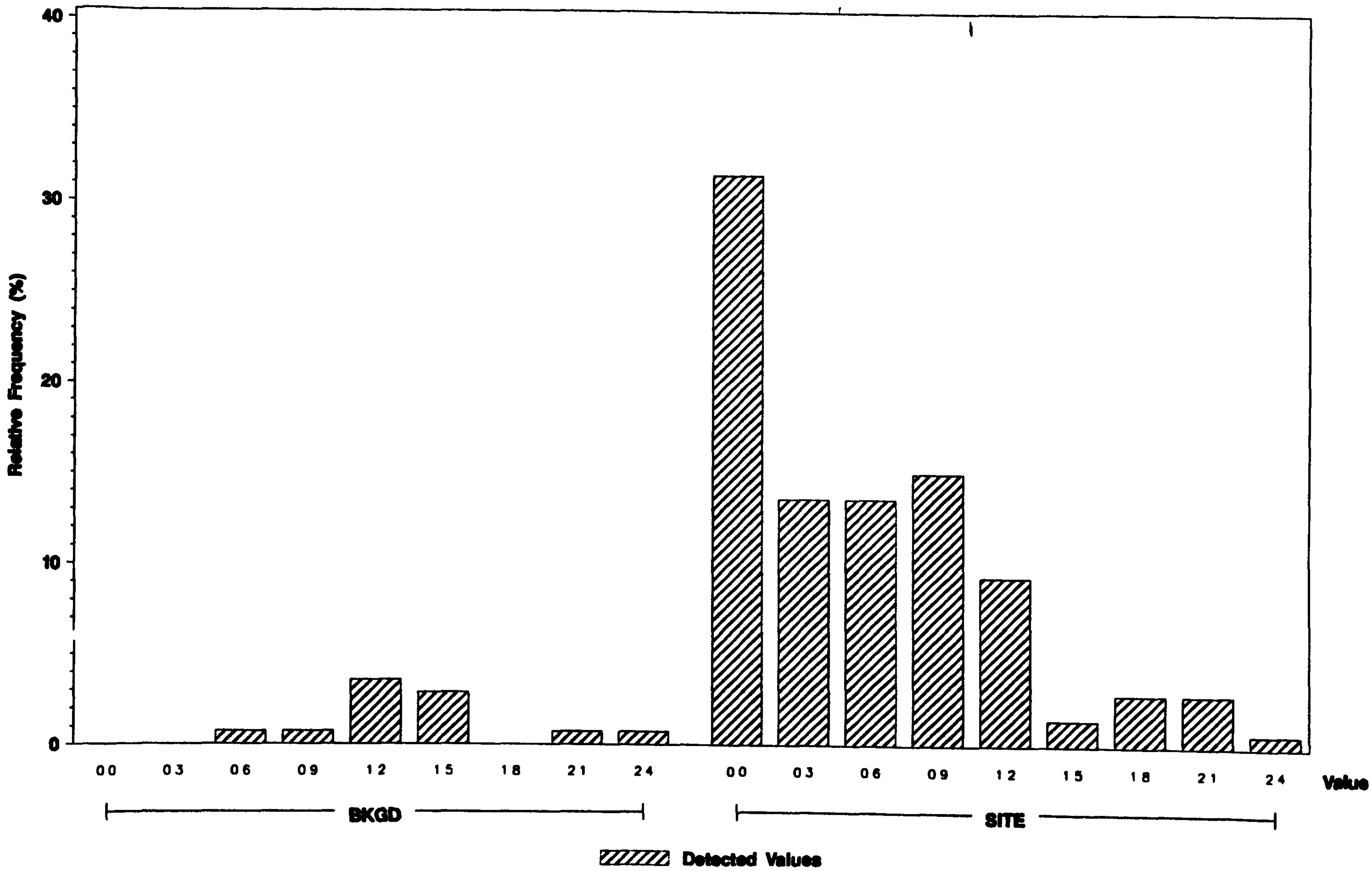
ANALYTE = CESIUM – 134



Background vs East Landfill Pond Frequency Histogram

CESIUM-137 (pCi/g) in Surface Soils (0-2 inches)

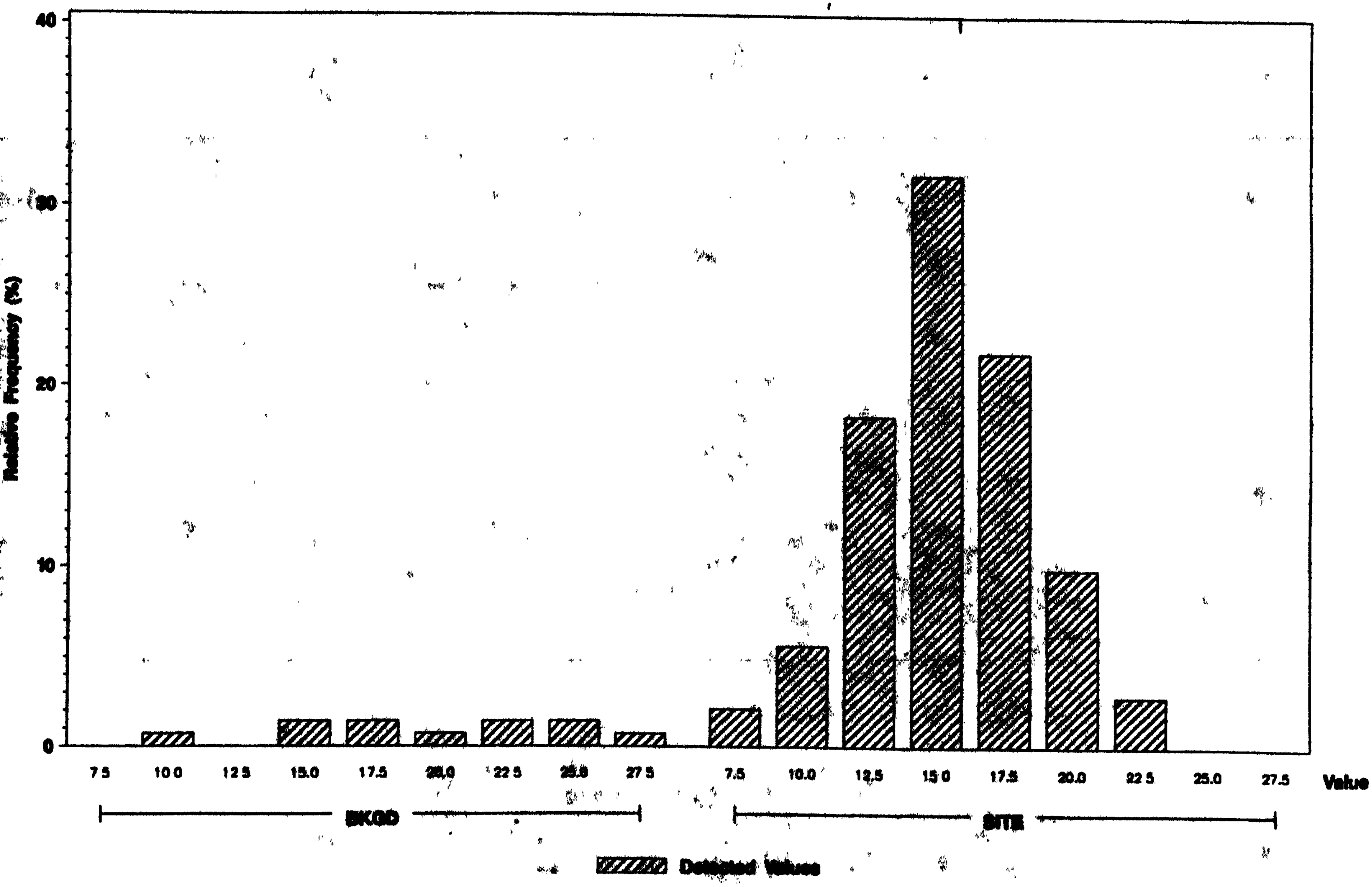
ANALYTE=CESIUM-137



Background vs East Landfill Pond Frequency Histogram

GROSS ALPHA (pCi/g) in Surface Soils (0–2 inches)

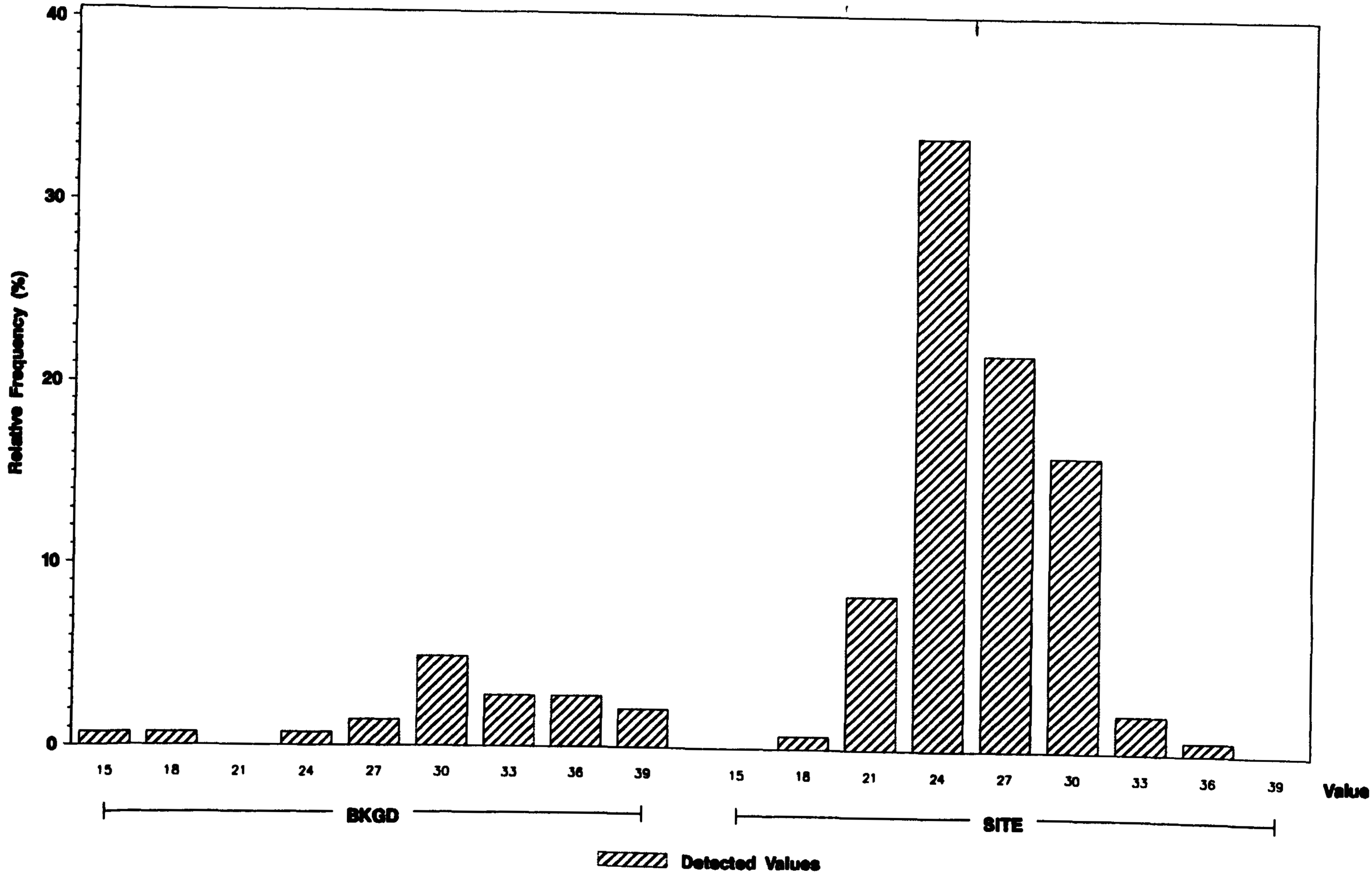
ANALYTE=GROSS ALPHA



Background vs East Landfill Pond Frequency Histogram

GROSS BETA (pCi/g) in Surface Soils (0 – 2 inches)

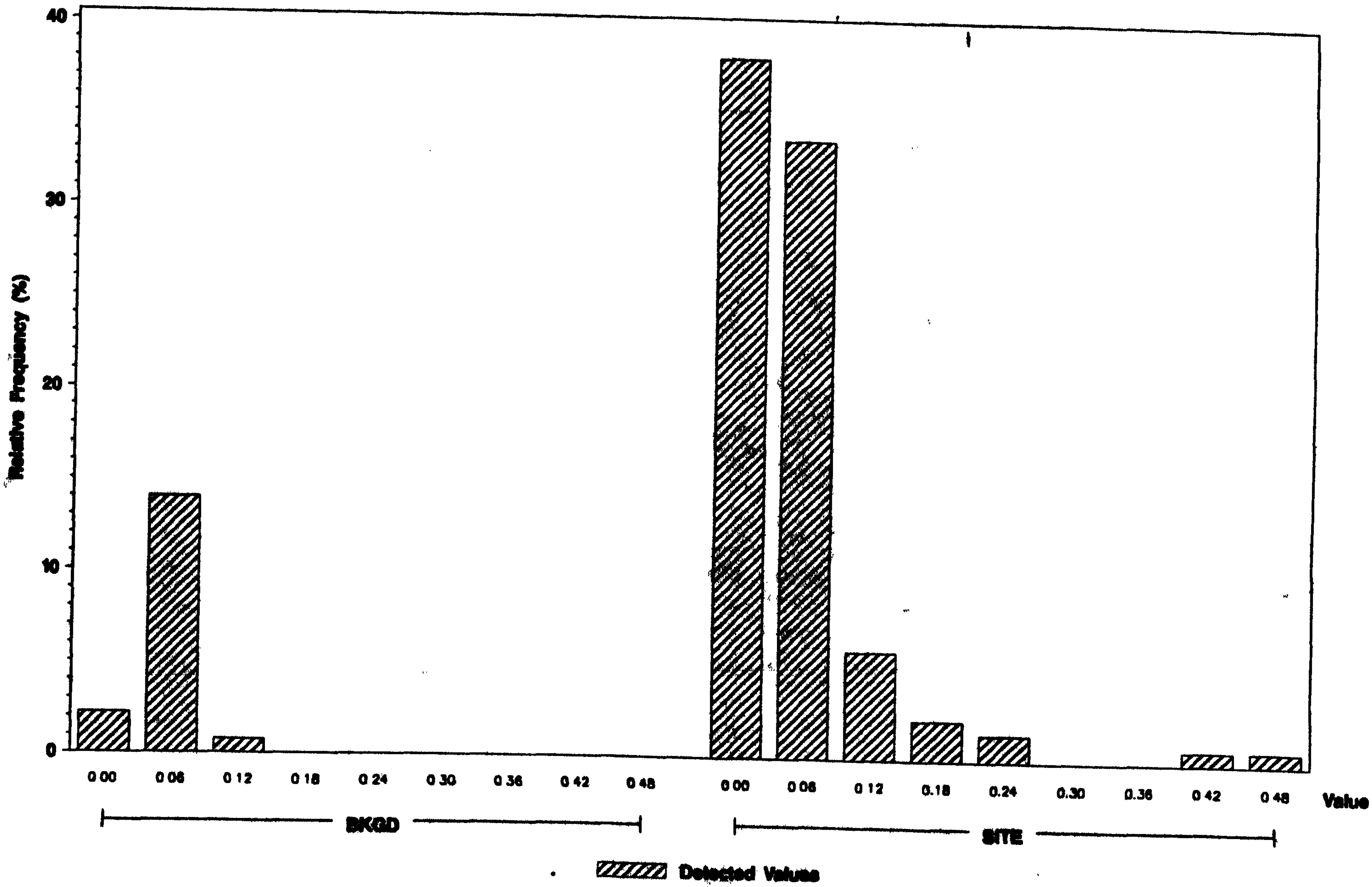
ANALYTE=GROSS BETA



Background vs East Landfill Pond Frequency Histogram

PLUTONIUM-239/240 (pCi/g) in Surface Soils (0-2 Inches)

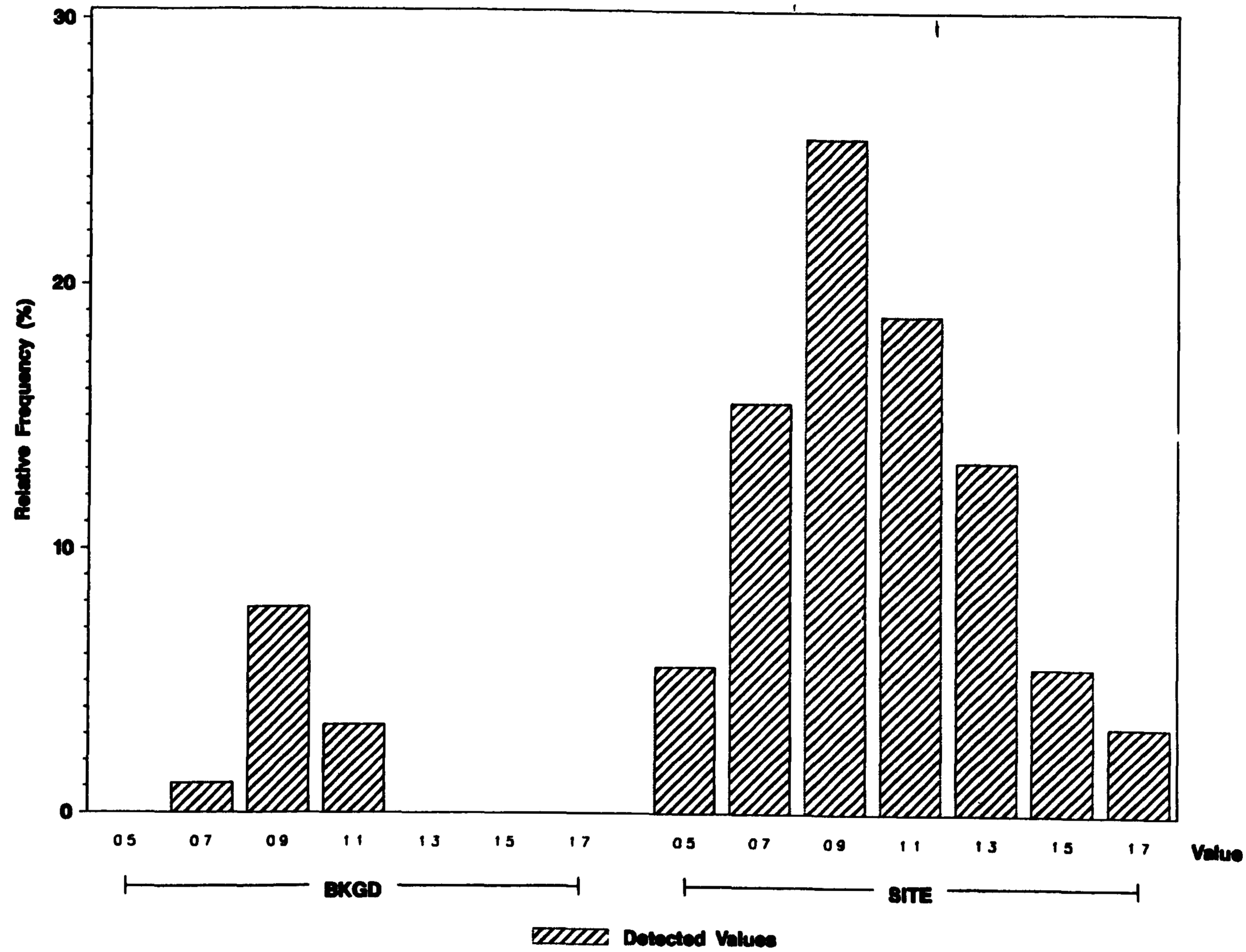
ANALYTE=PLUTONIUM-239/240



Background vs East Landfill Pond Frequency Histogram

RADIUM – 226 (pCi/g) in Surface Soils (0 – 2 inches)

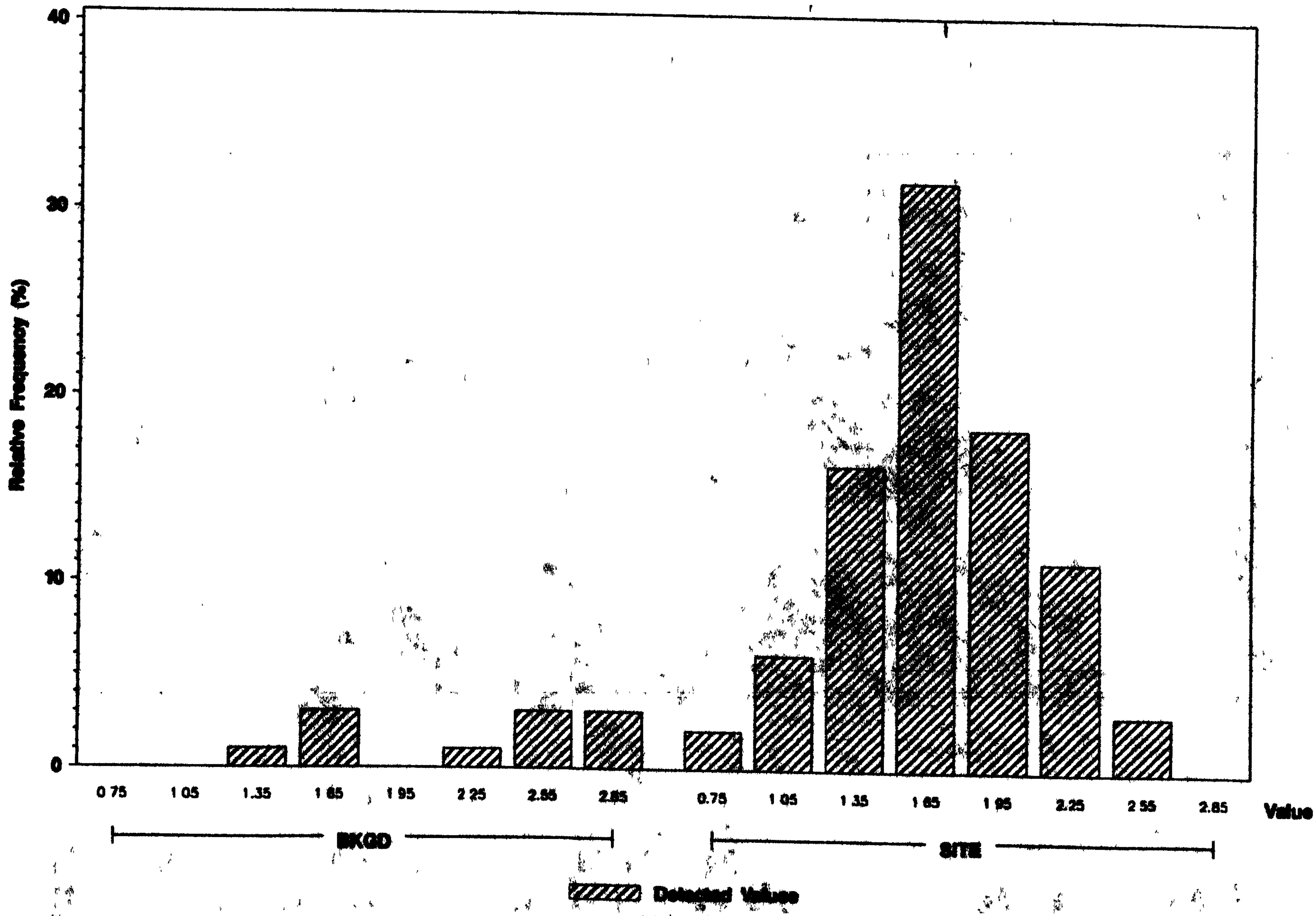
ANALYTE = RADIUM – 226



Background vs East Landfill Pond Frequency Histogram

RADIUM – 228 (pCi/g) in Surface Soils (0 – 2 inches)

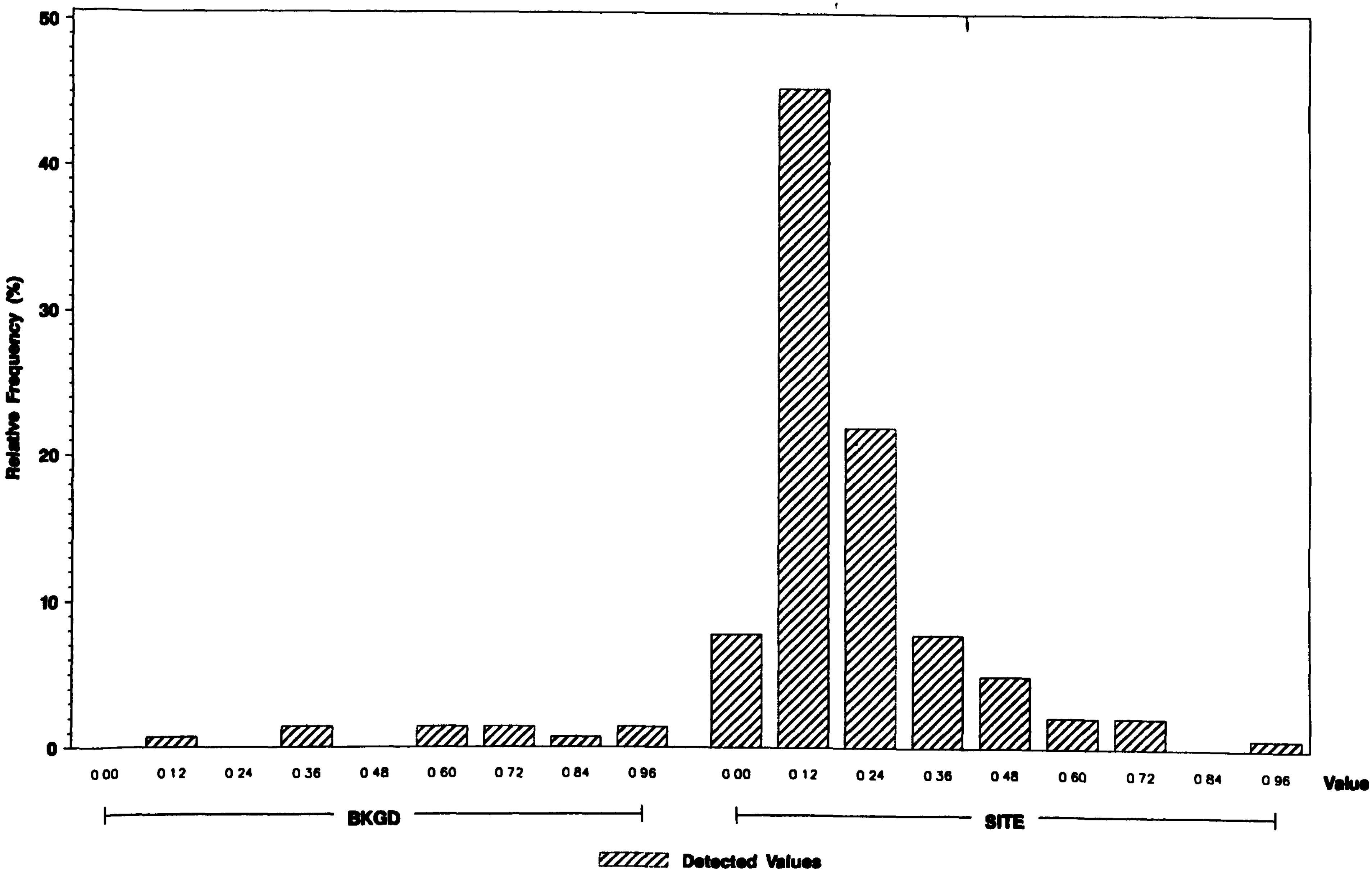
ANALYTE = RADIUM – 228



Background vs East Landfill Pond Frequency Histogram

STRONTIUM – 89,90 (pCi/g) in Surface Soils (0 – 2 inches)

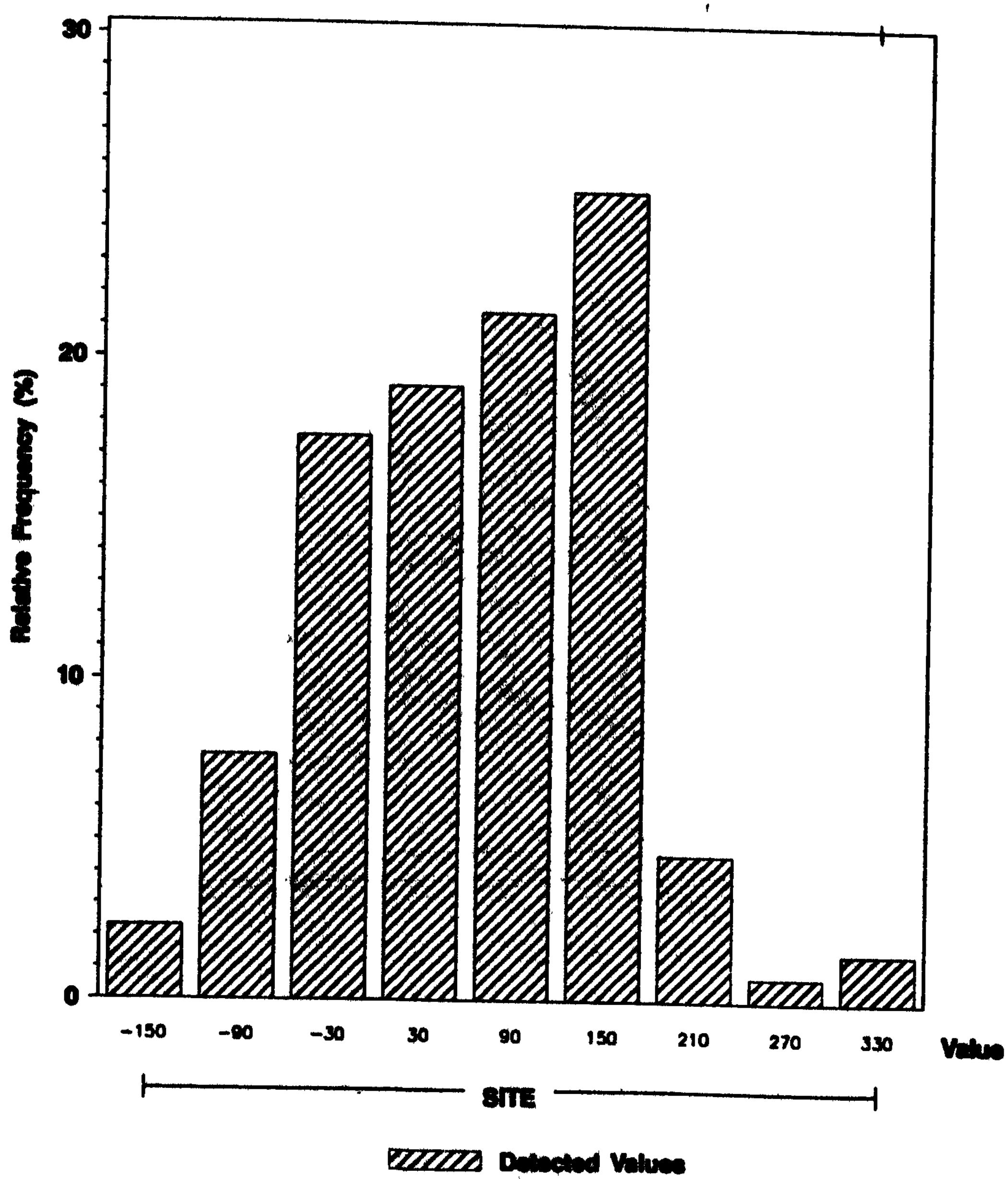
ANALYTE = STRONTIUM – 89,90



Background vs East Landfill Pond Frequency Histogram

TRITIUM (pCi/L) in Surface Soils (0 – 2 inches)

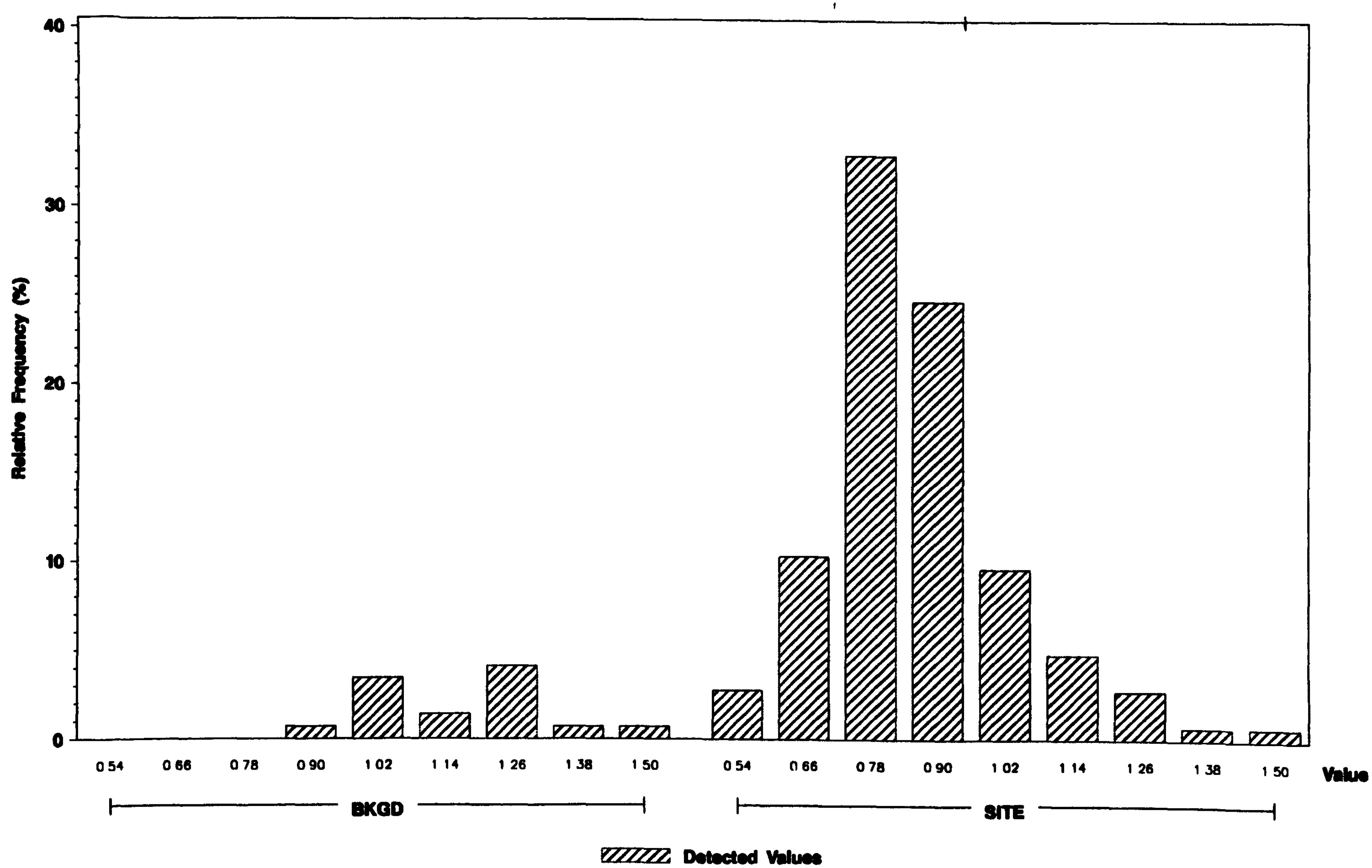
ANALYTE = TRITIUM



Background vs East Landfill Pond Frequency Histogram

URANIUM-233,-234 (pCi/g) in Surface Soils (0-2 inches)

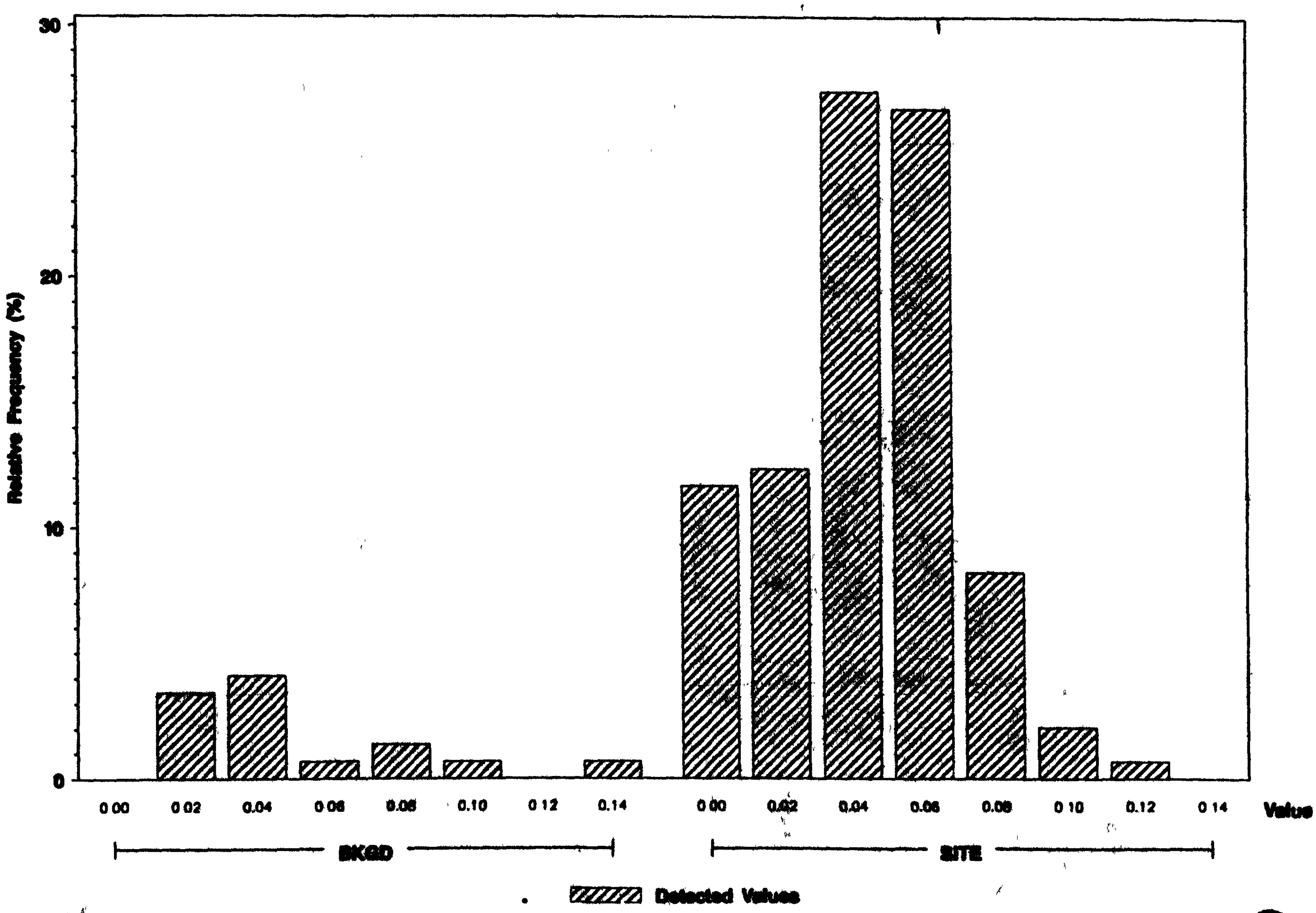
ANALYTE=URANIUM-233,-234



Background vs East Landfill Pond Frequency Histogram

URANIUM – 235 (pCi/g) in Surface Soils (0 – 2 Inches)

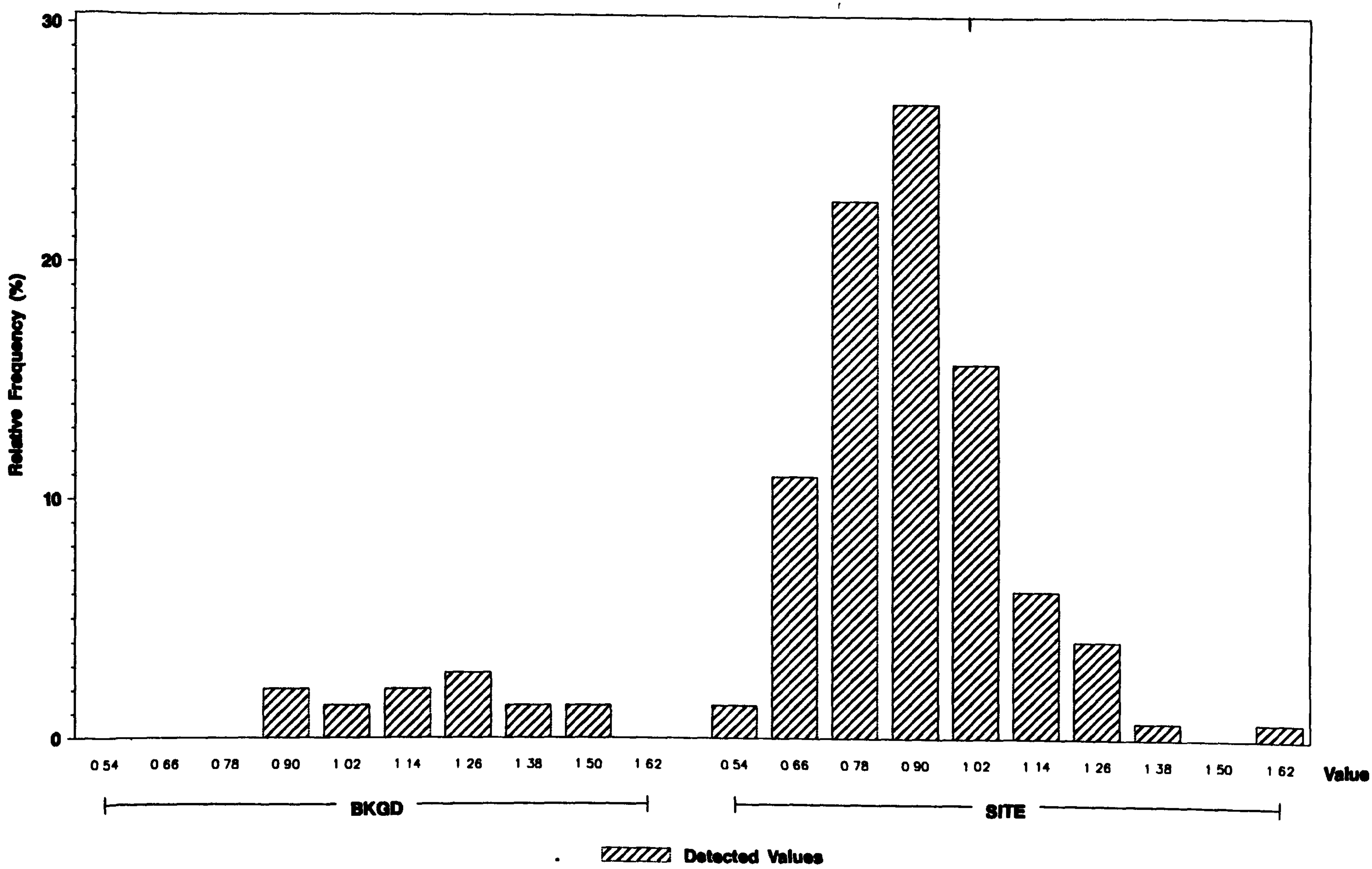
ANALYTE = URANIUM – 235



Background vs East Landfill Pond Frequency Histogram

URANIUM – 238 (pCi/g) in Surface Soils (0 – 2 inches)

ANALYTE = URANIUM – 238



Surface Soils

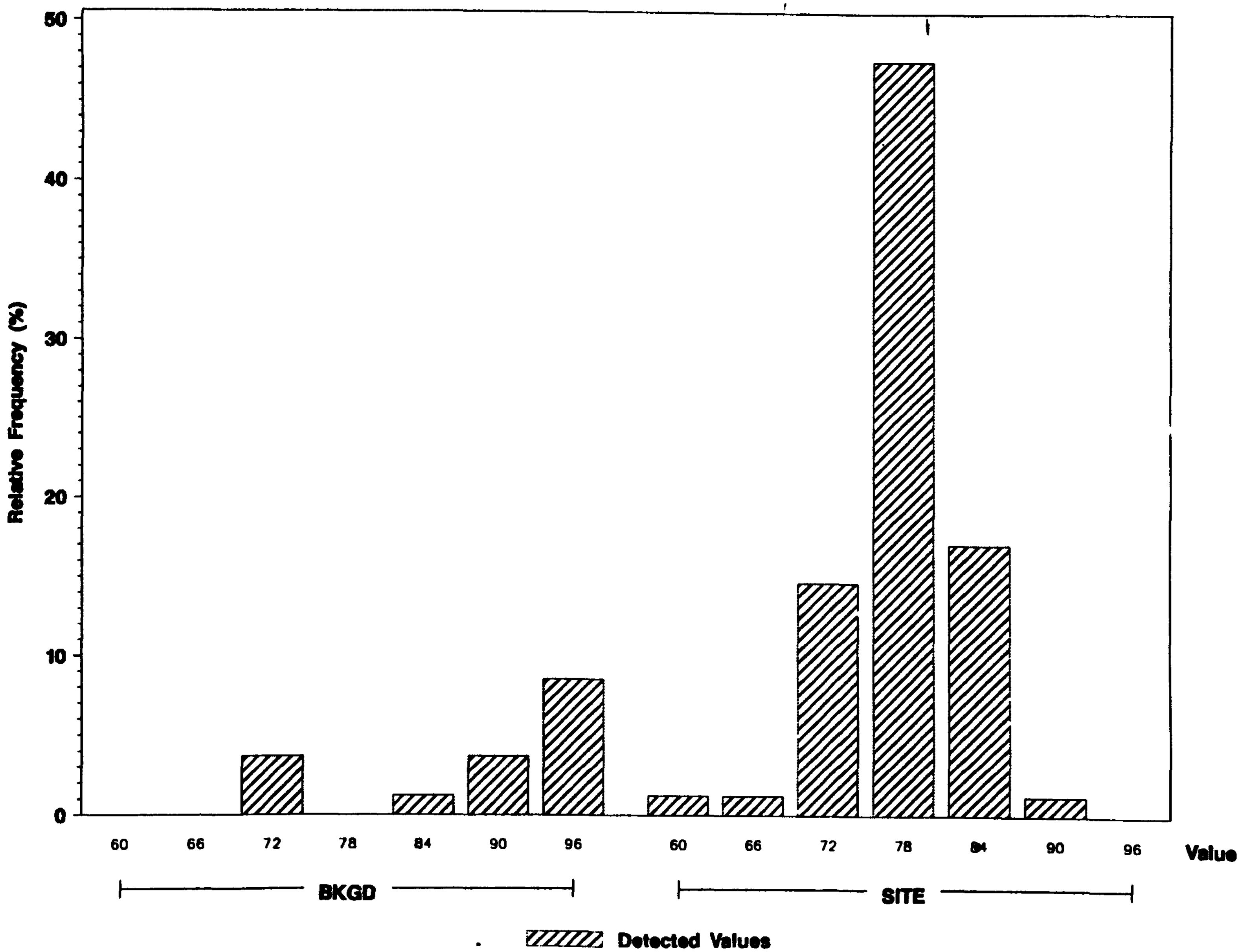
Background vs. East Landfill Pond

(0 to 10 inches)

Background vs East Landfill Pond Frequency Histogram

% SOLIDS in Surface Soils (0–10 inches)

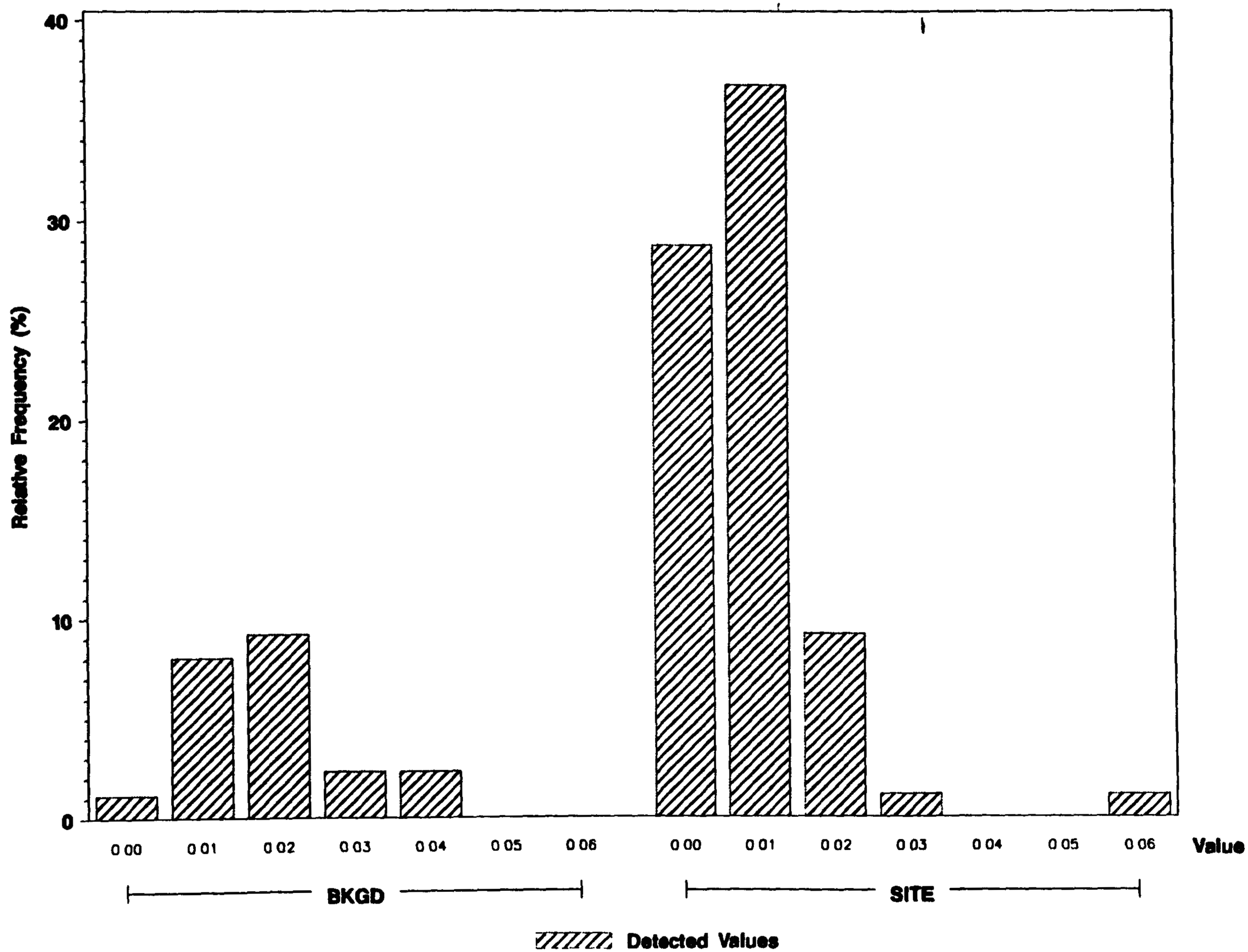
ANALYTE=% SOLIDS



Background vs East Landfill Pond Frequency Histogram

AMERICIUM – 241 (pCi/g) in Surface Soils (0 – 10 inches)

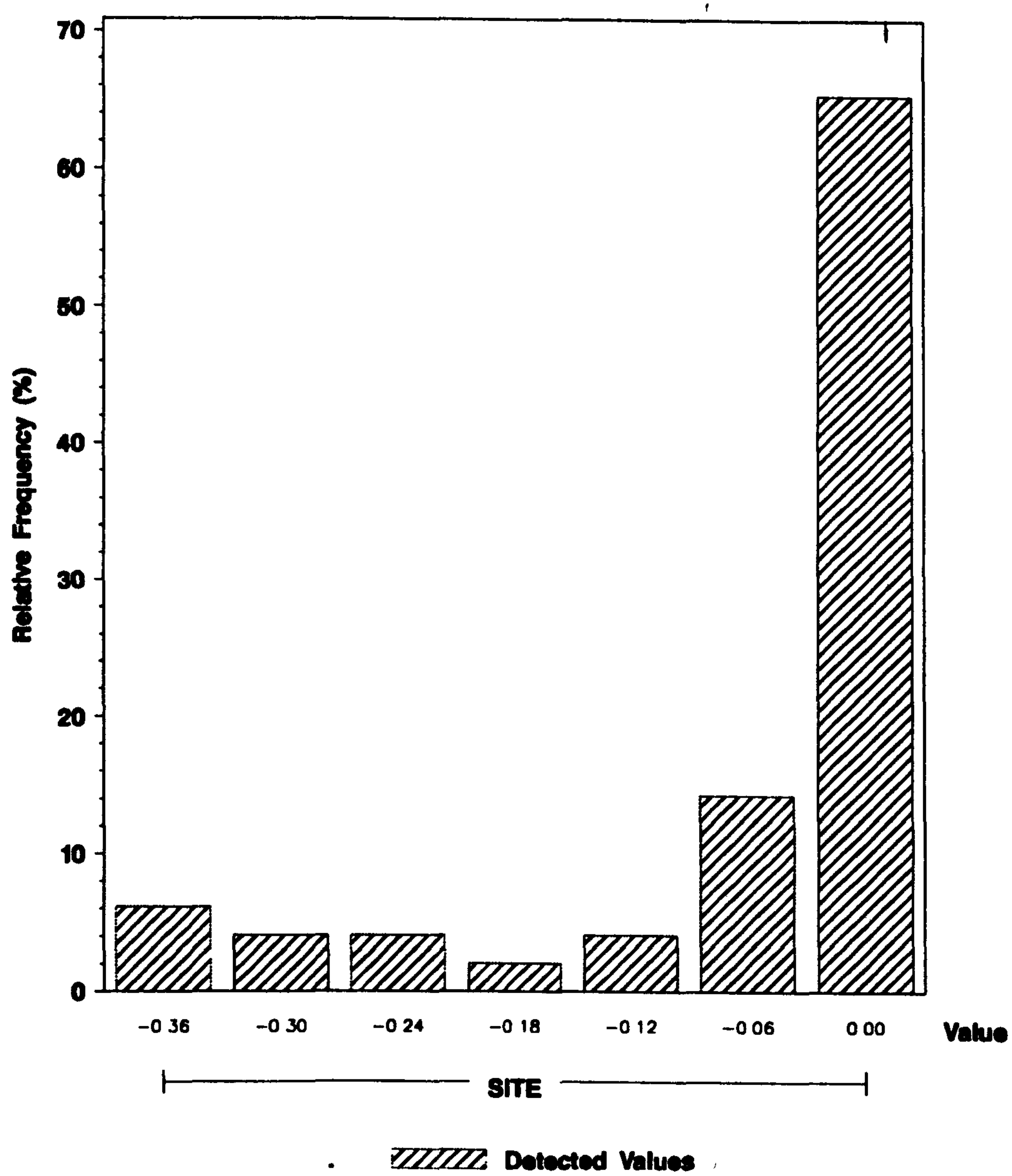
ANALYTE = AMERICIUM – 241



Background vs East Landfill Pond Frequency Histogram

CESIUM-134 (pCi/g) in Surface Soils (0-10 inches)

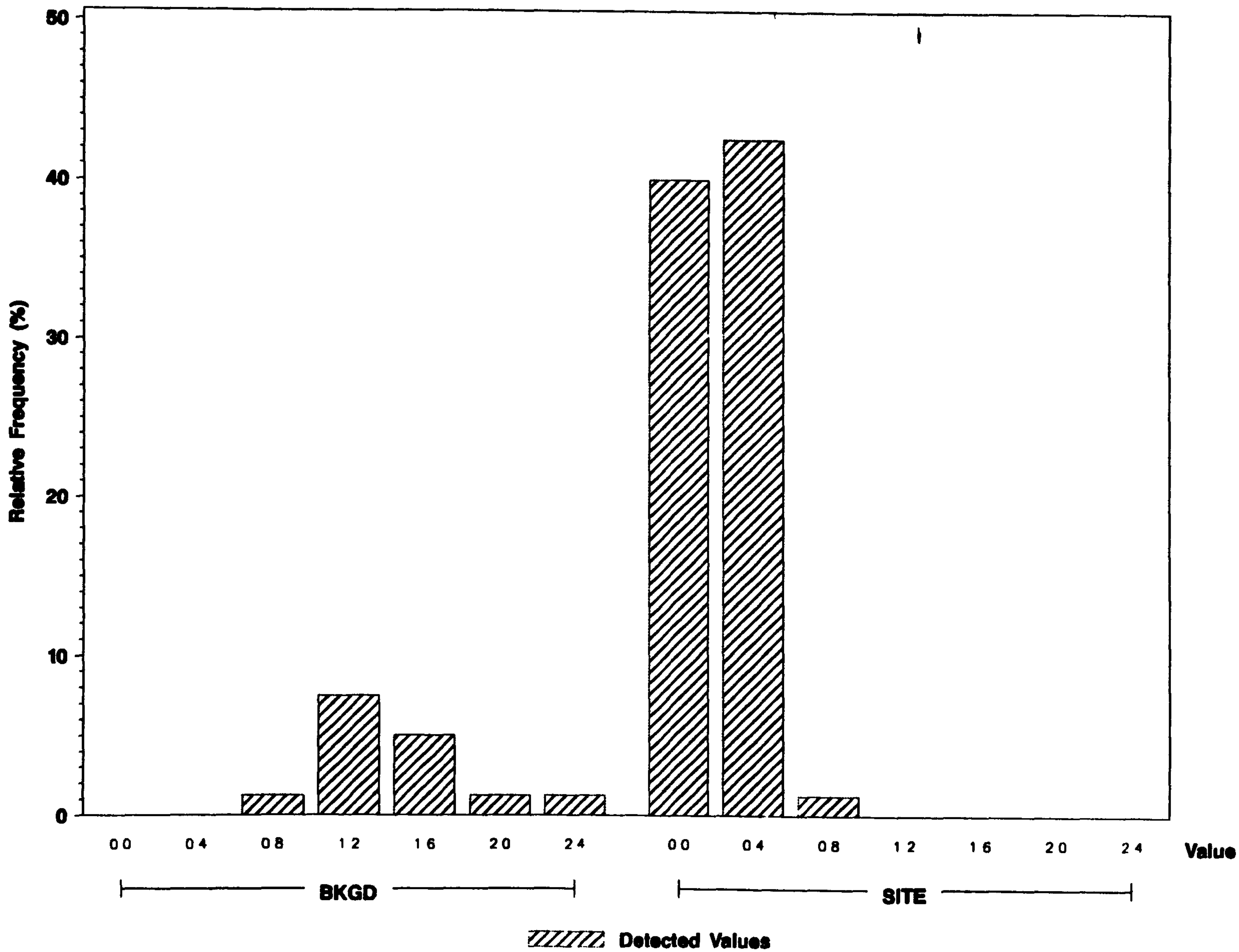
ANALYTE=CESIUM-134



Background vs East Landfill Pond Frequency Histogram

CESIUM – 137 (pCi/g) in Surface Soils (0 – 10 inches)

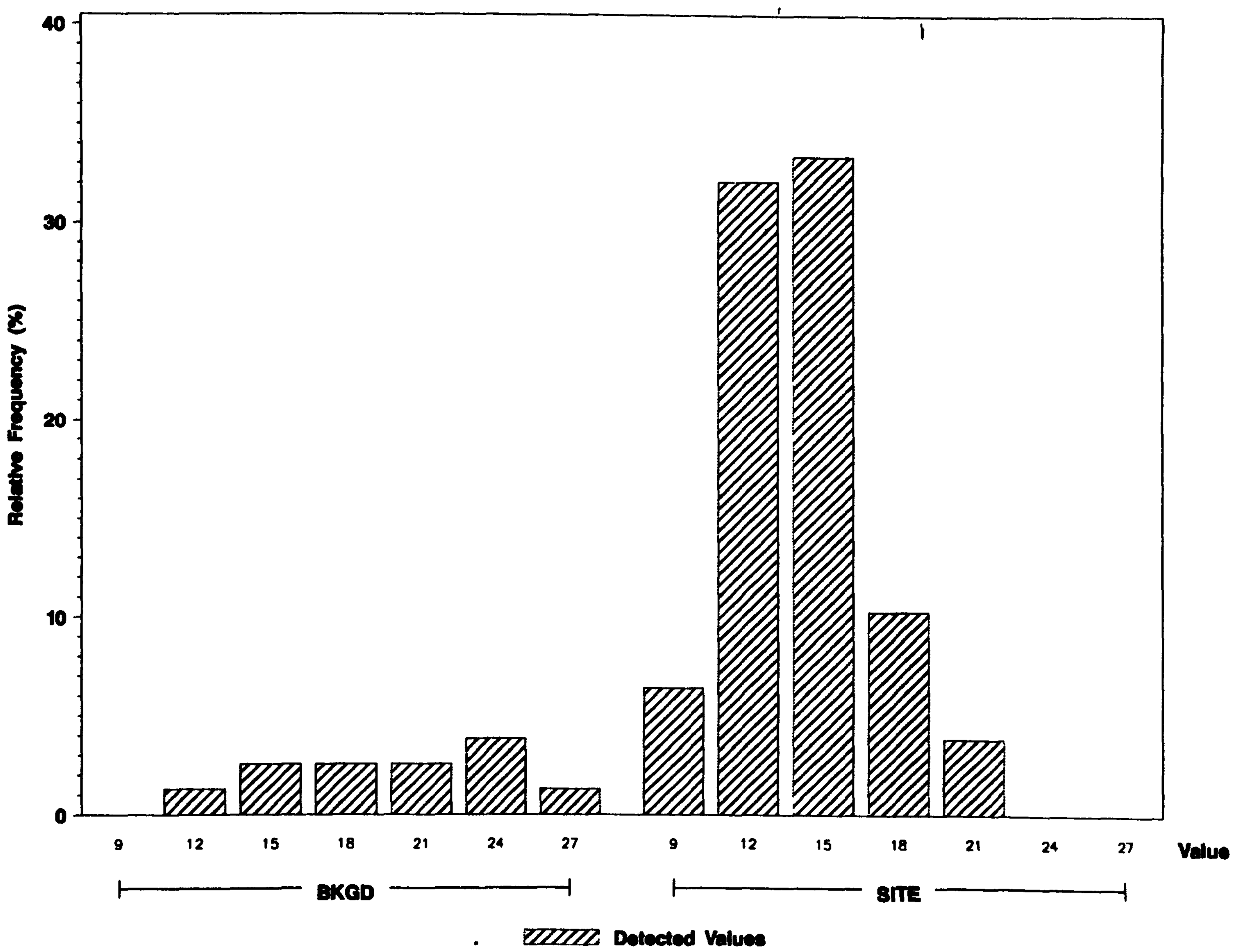
ANALYTE = CESIUM – 137



Background vs East Landfill Pond Frequency Histogram

GROSS ALPHA (pCi/g) in Surface Soils (0–10 inches)

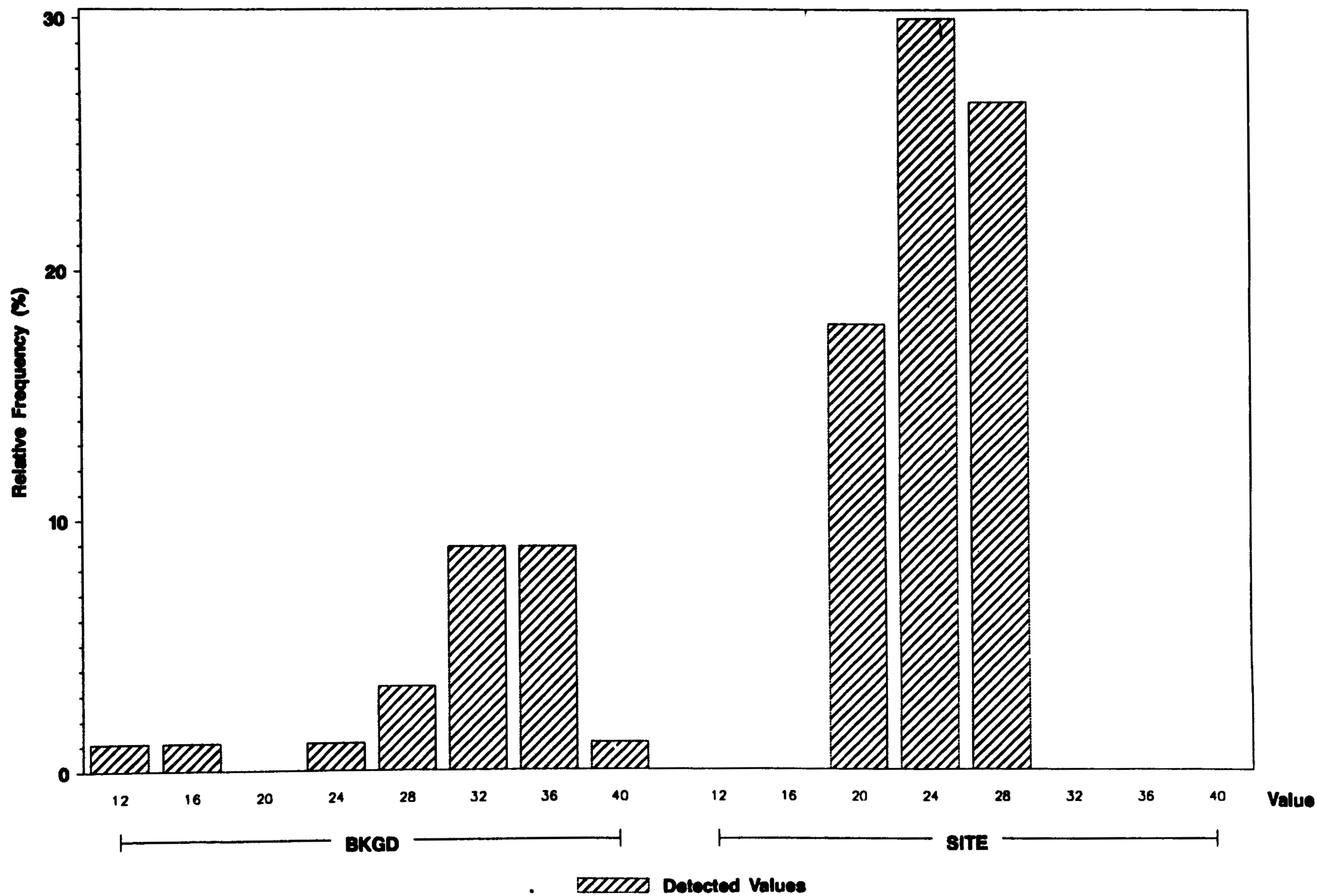
ANALYTE=GROSS ALPHA



Background vs East Landfill Pond Frequency Histogram

GROSS BETA (pCi/g) in Surface Soils (0-10 inches)

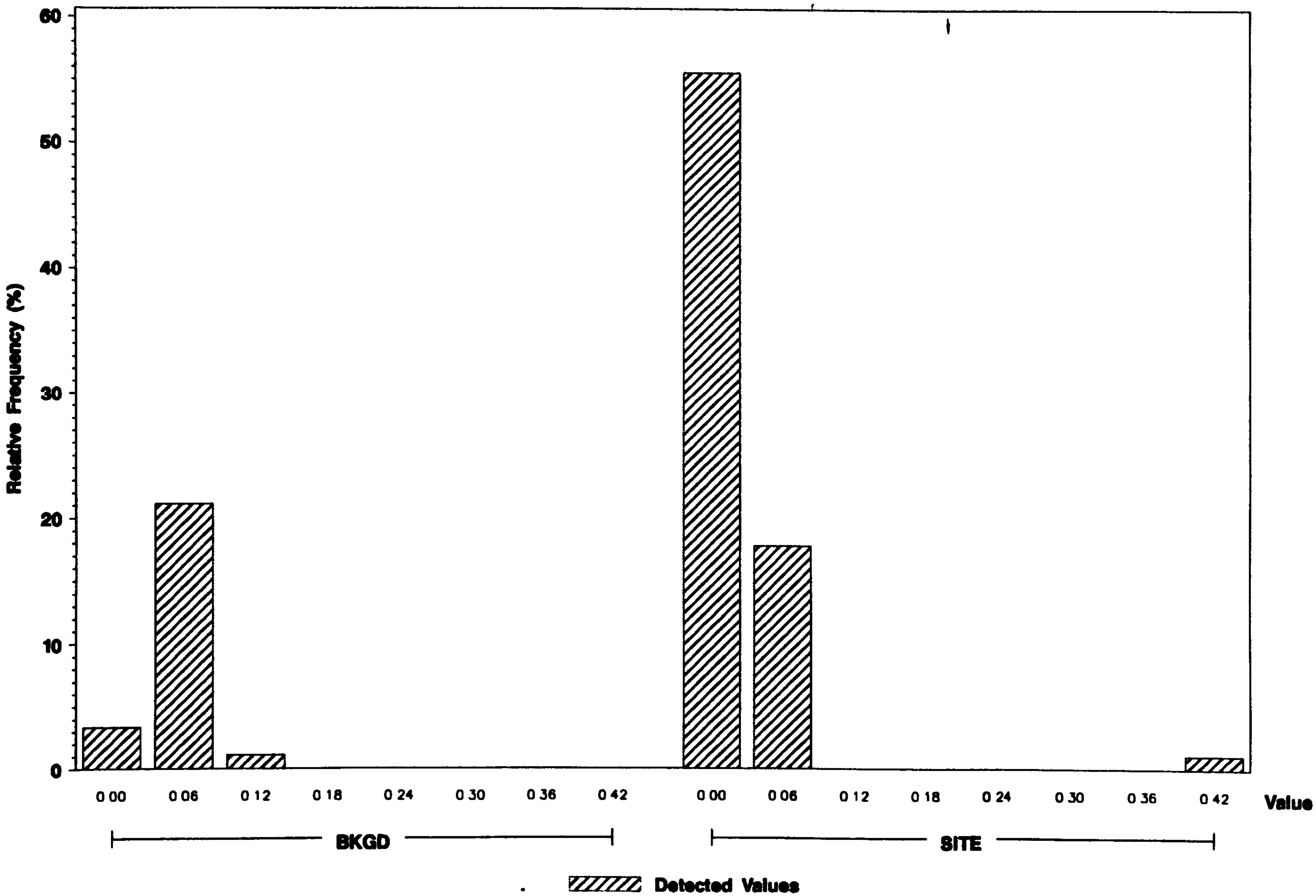
ANALYTE=GROSS BETA



Background vs East Landfill Pond Frequency Histogram

PLUTONIUM – 239/240 (pCi/g) in Surface Soils (0 – 10 inches)

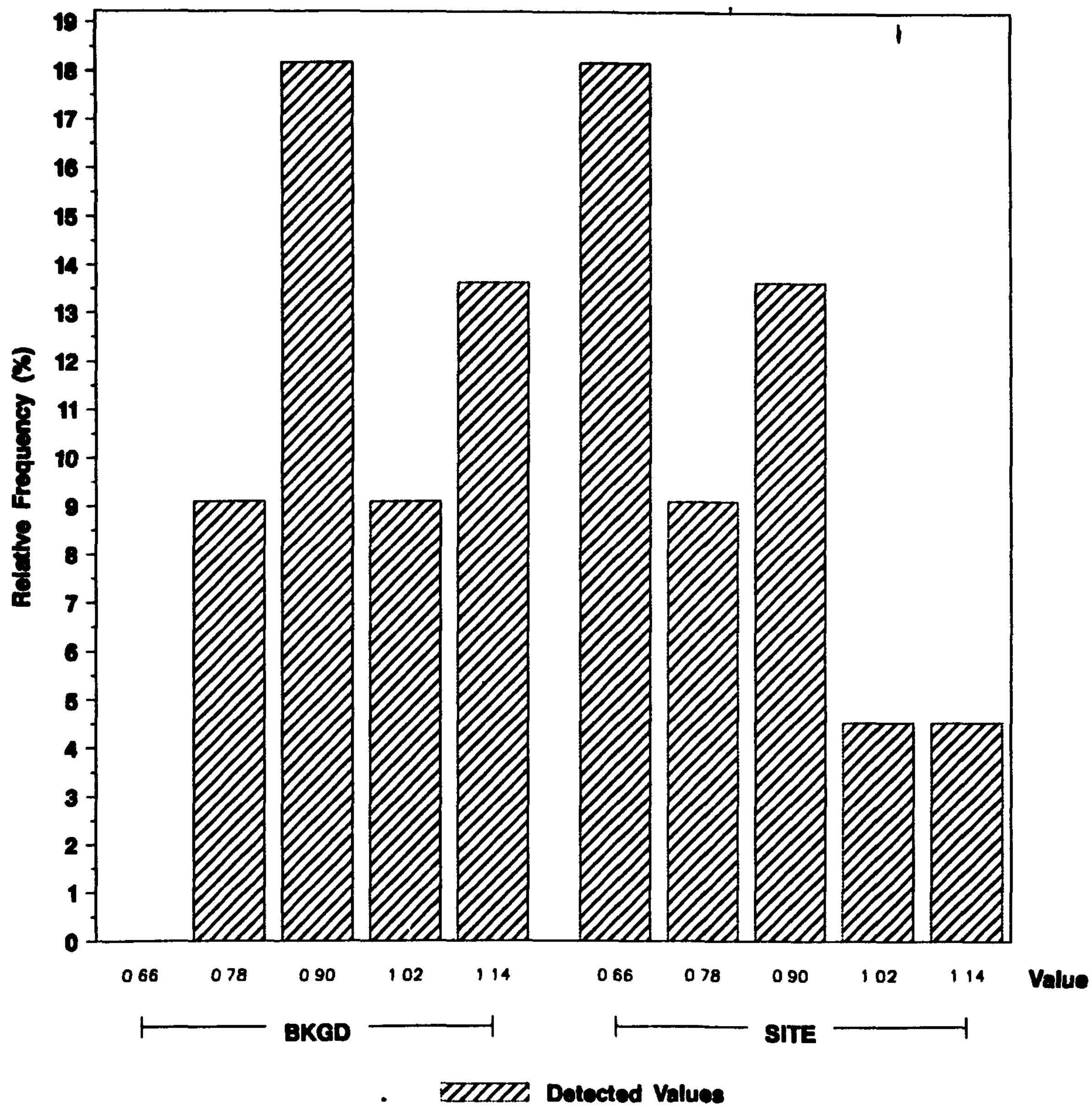
ANALYTE = PLUTONIUM – 239/240



Background vs East Landfill Pond Frequency Histogram

RADIUM – 226 (pCi/g) in Surface Soils (0 – 10 inches)

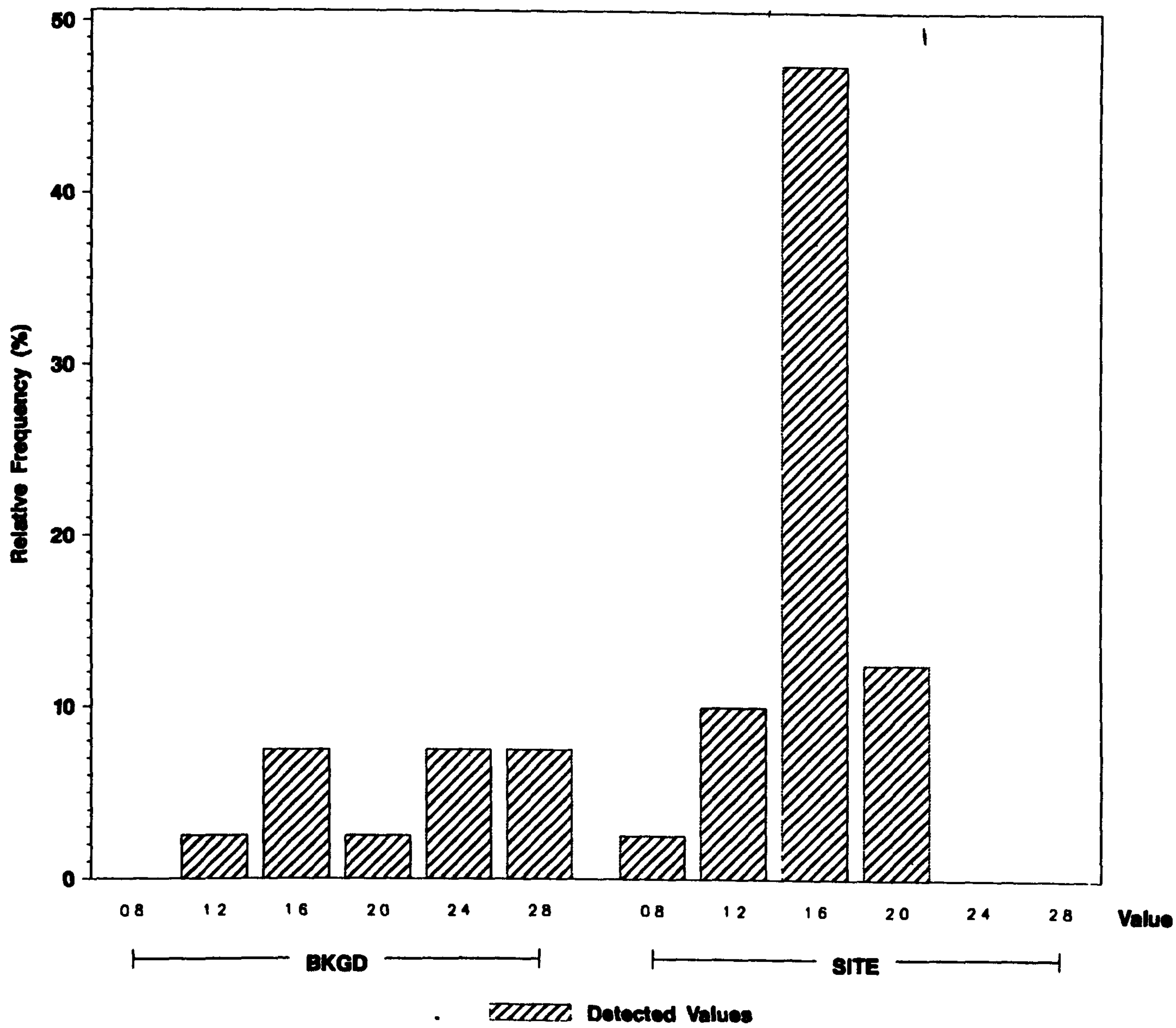
ANALYTE = RADIUM – 226



Background vs East Landfill Pond Frequency Histogram

RADIUM − 228 (pCi/g) in Surface Soils (0 − 10 inches)

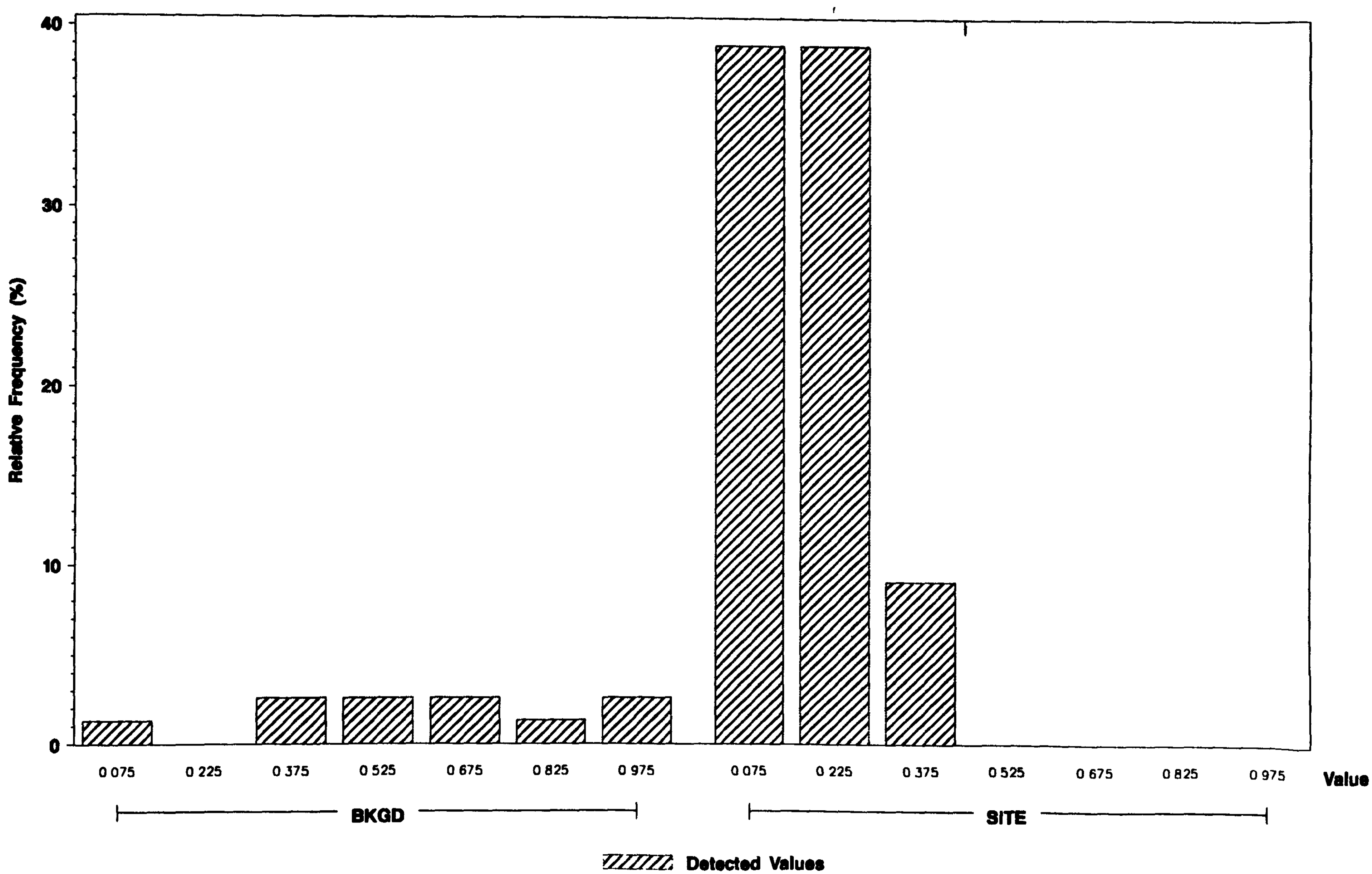
ANALYTE = RADIUM − 228



Background vs East Landfill Pond Frequency Histogram

STRONTIUM – 89,90 (pCi/g) in Surface Soils (0 – 10 inches)

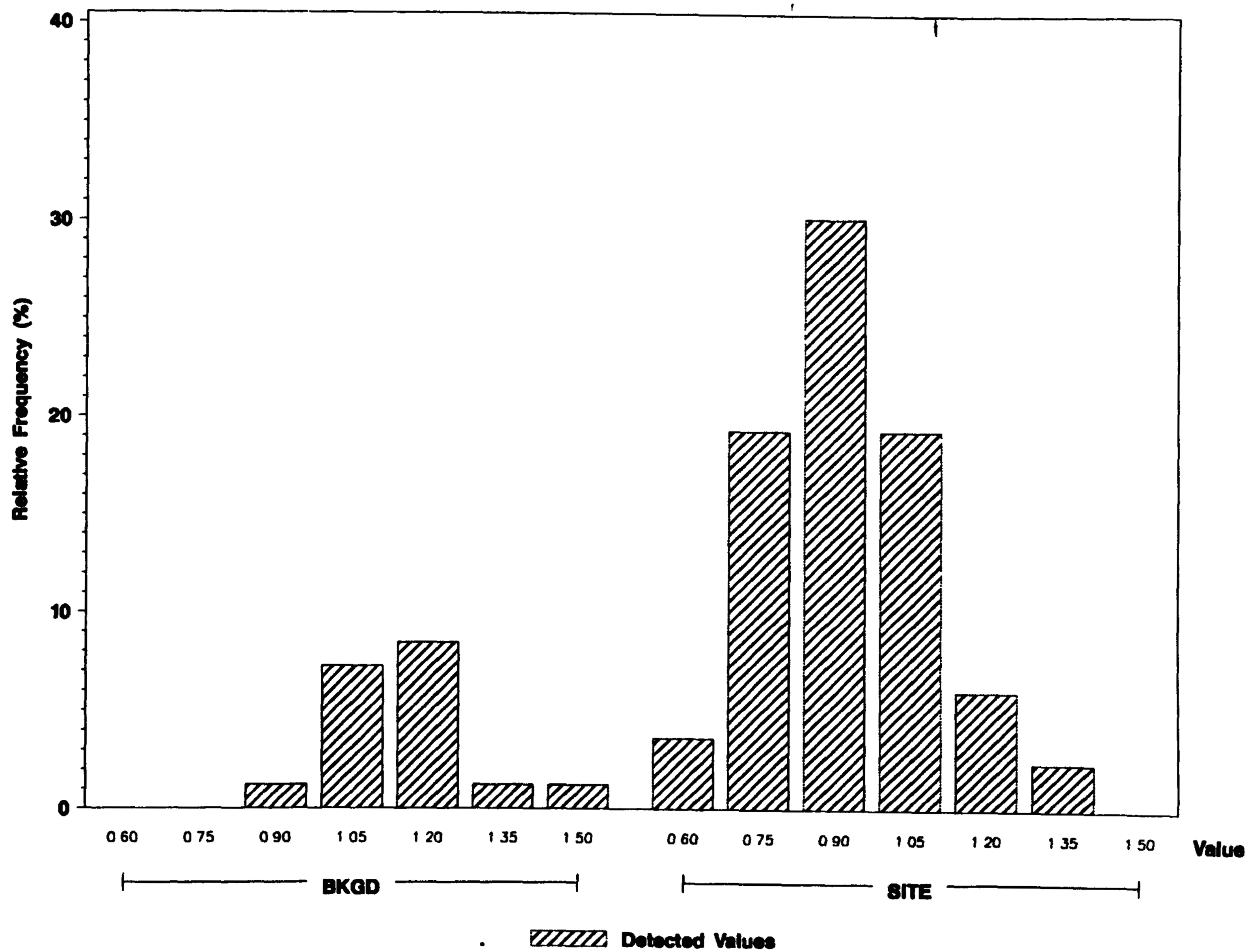
ANALYTE = STRONTIUM – 89,90



Background vs East Landfill Pond Frequency Histogram

URANIUM – 233, – 234 (pCi/g) in Surface Soils (0 – 10 inches)

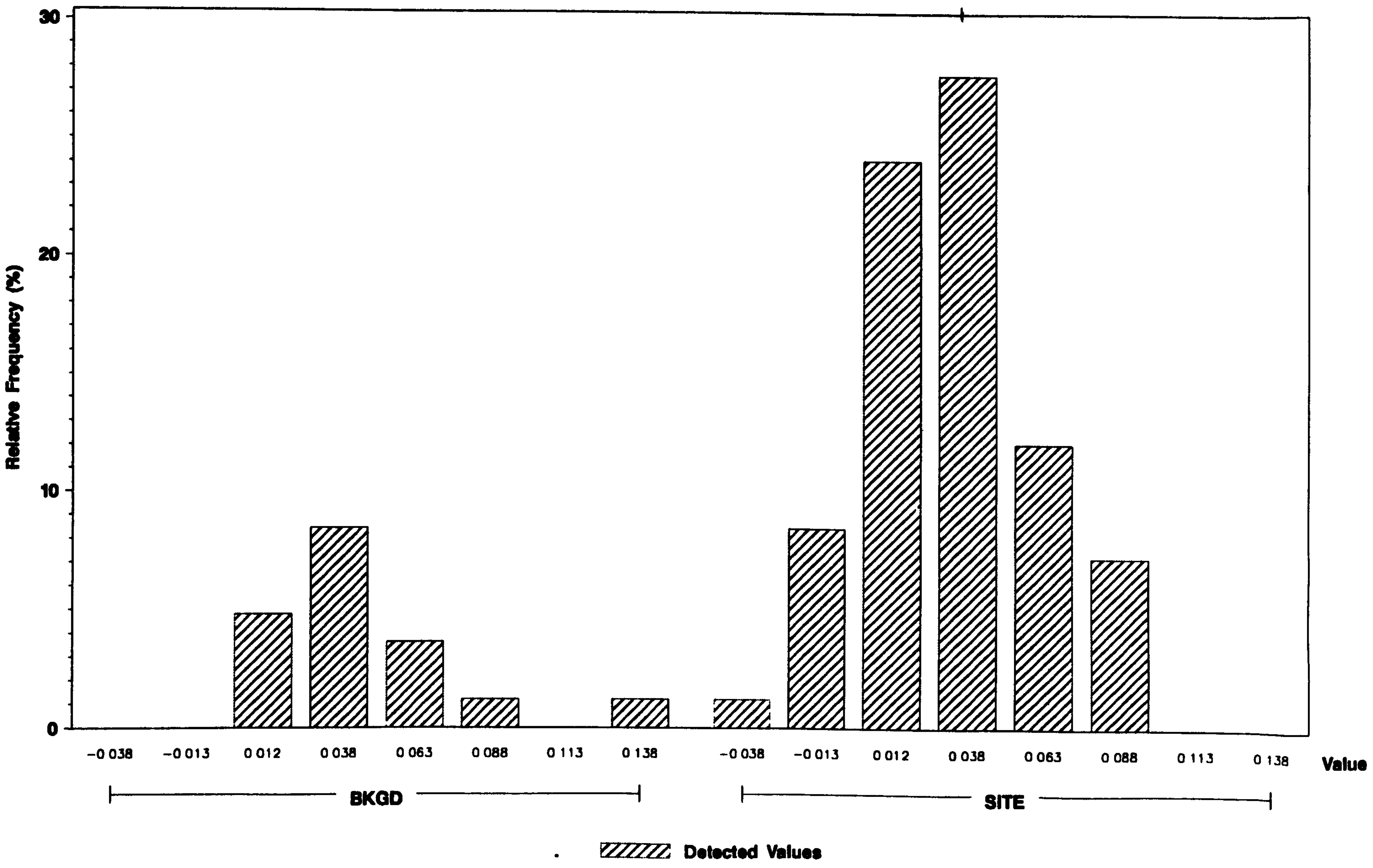
ANALYTE = URANIUM – 233, – 234



Background vs East Landfill Pond Frequency Histogram

URANIUM – 235 (pCi/g) in Surface Soils (0 – 10 inches)

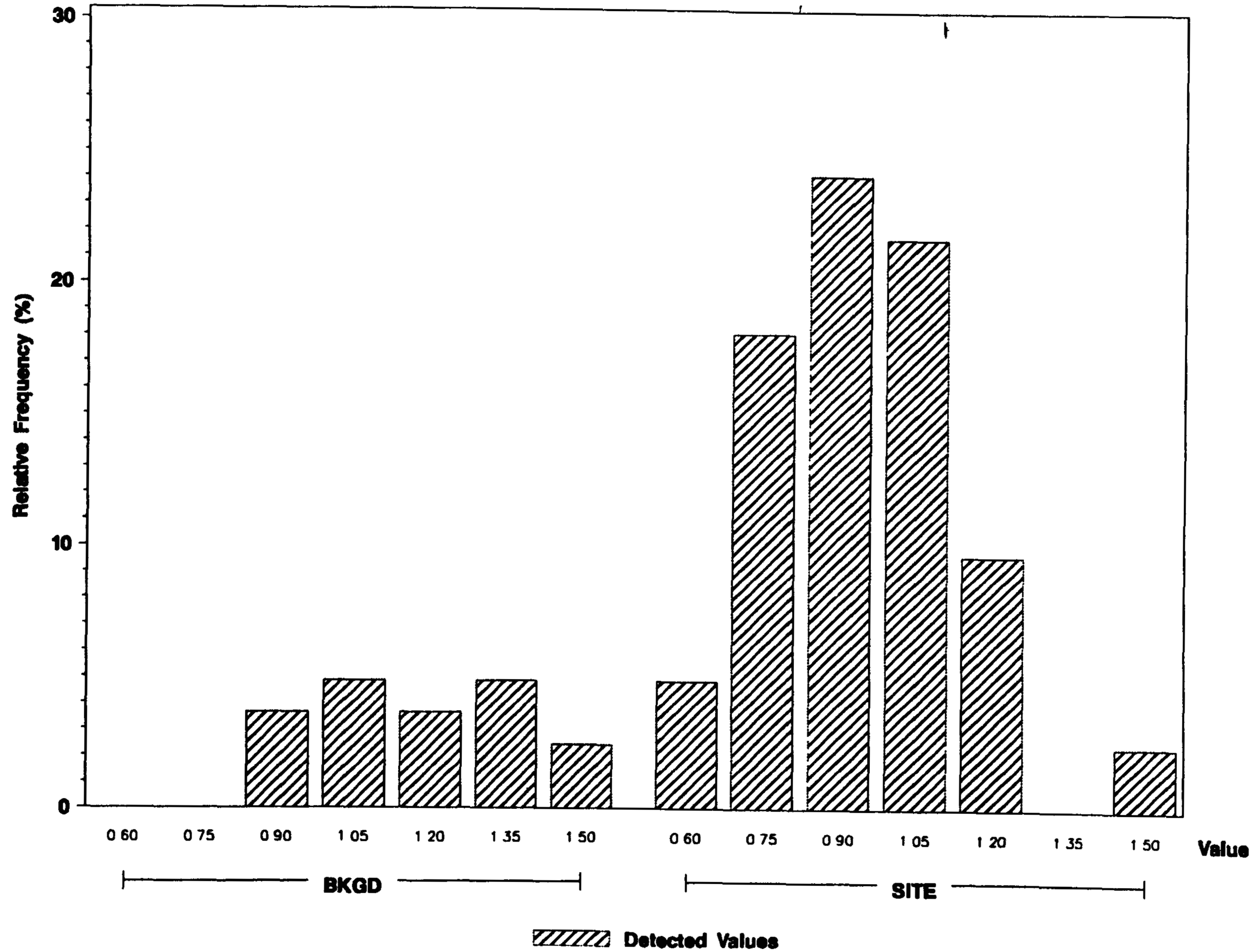
ANALYTE = URANIUM – 235



Background vs East Landfill Pond Frequency Histogram

URANIUM-238 (pCi/g) in Surface Soils (0-10 inches)

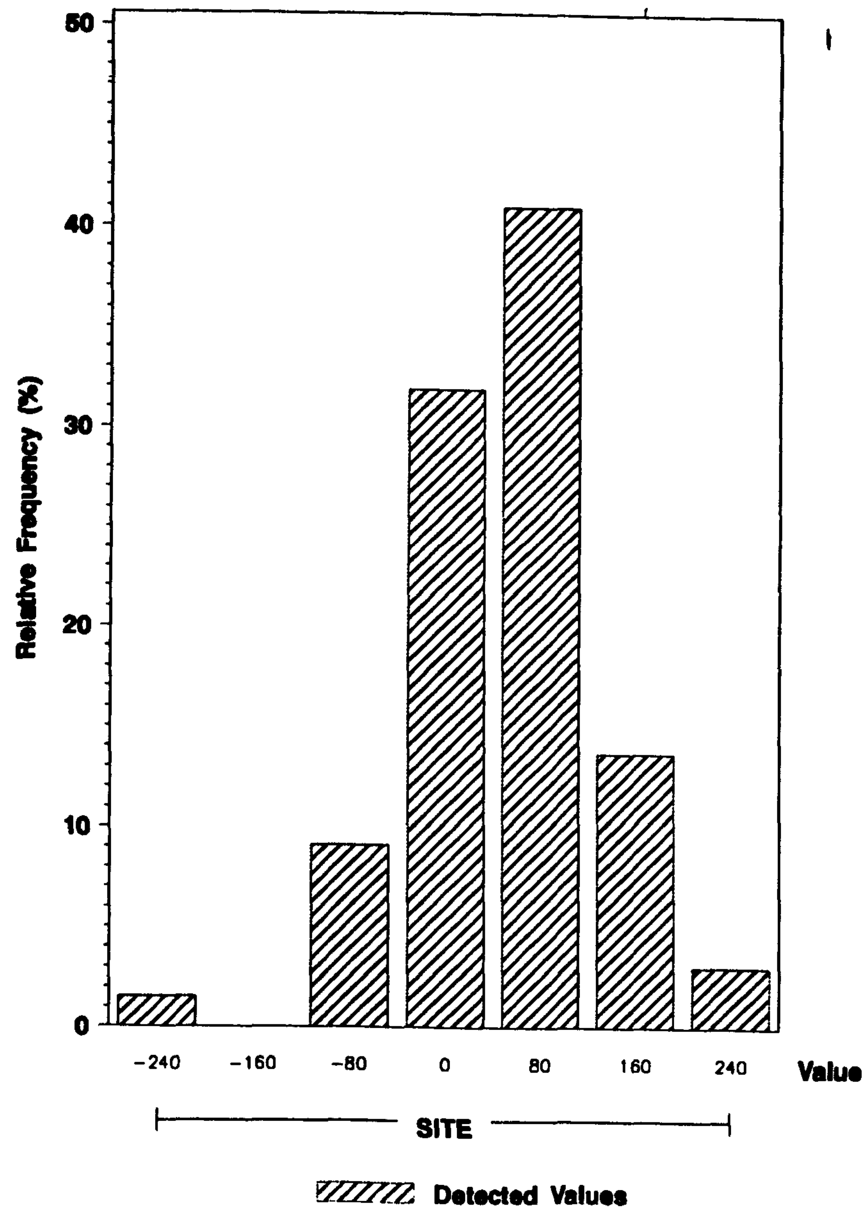
ANALYTE=URANIUM-238



Background vs East Landfill Pond Frequency Histogram

TRITIUM (pCi/L) in Surface Soils (0 – 10 inches)

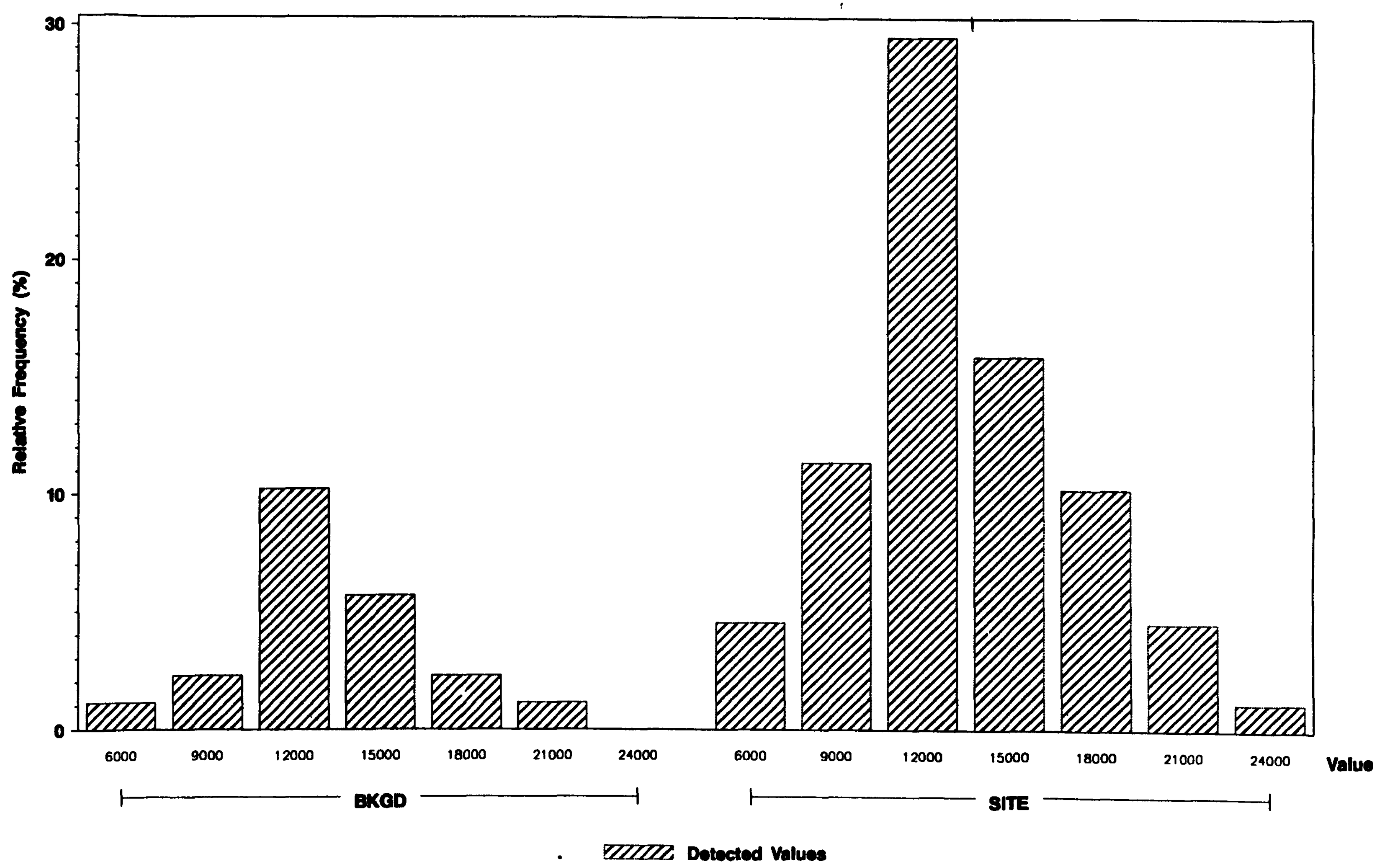
ANALYTE=TRITIUM



Background vs East Landfill Pond Frequency Histogram

ALUMINUM (mg/Kg) in Surface Soils (0 – 10 inches)

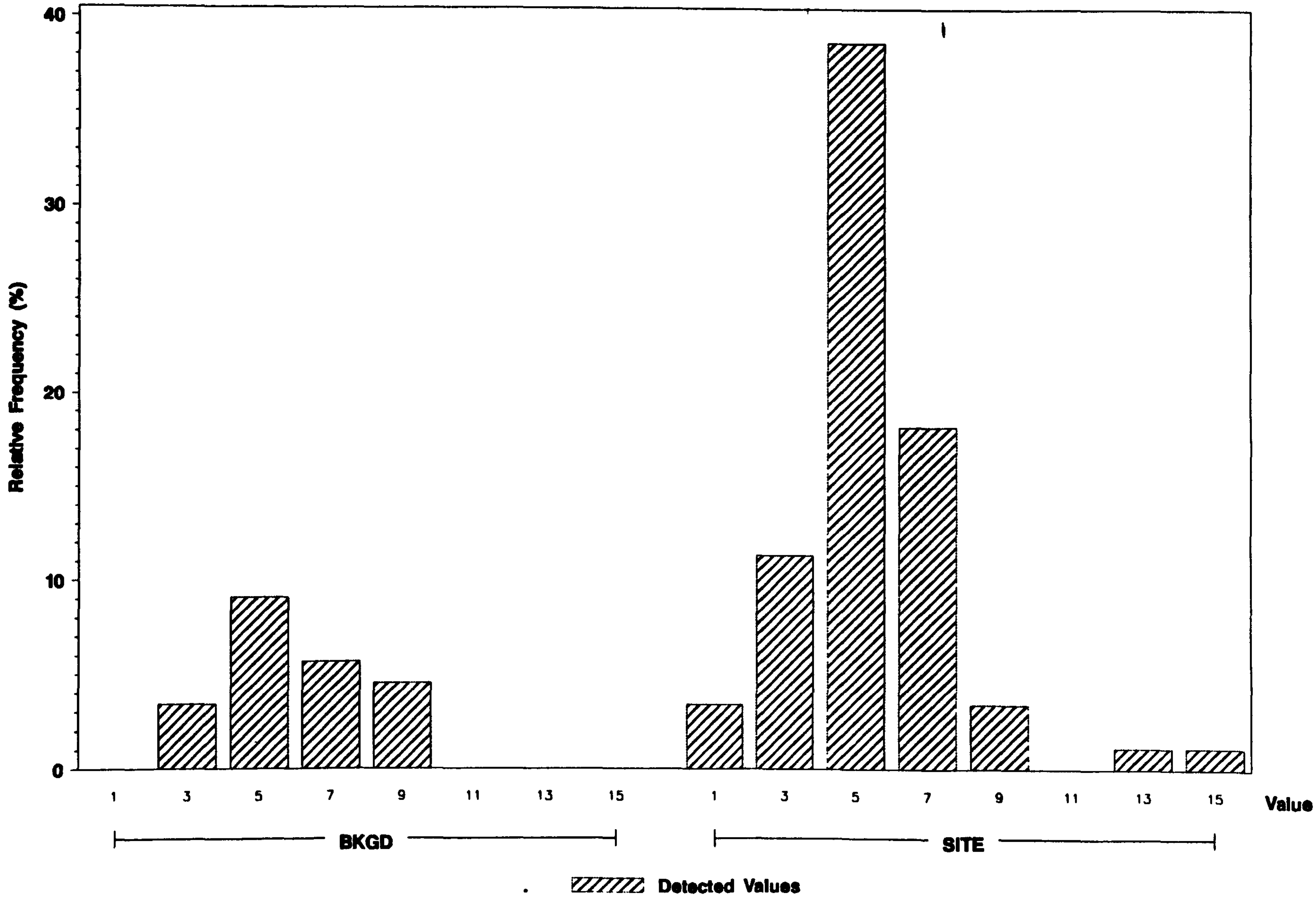
ANALYTE = ALUMINUM



Background vs East Landfill Pond Frequency Histogram

ARSENIC (mg/Kg) in Surface Soils (0–10 inches)

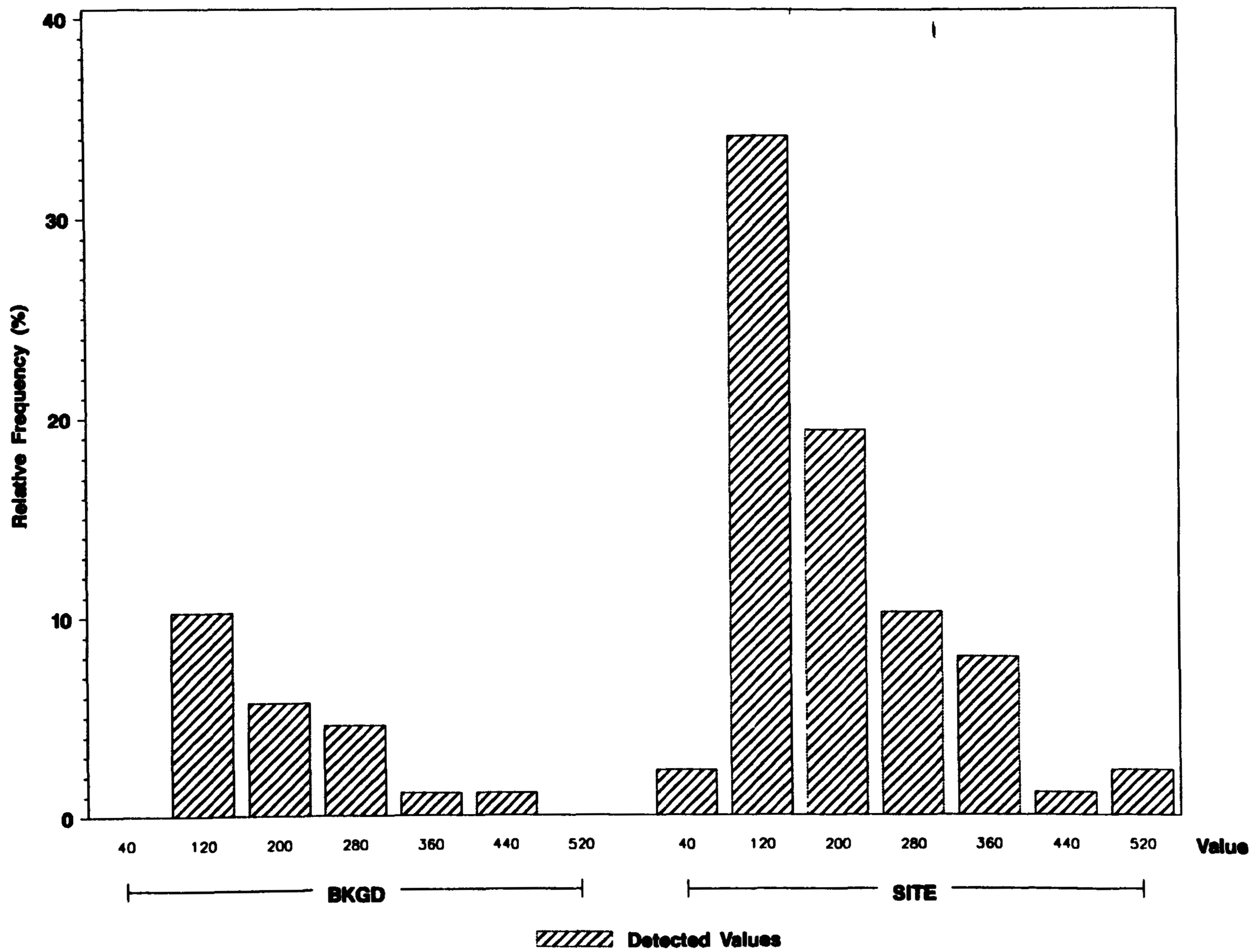
ANALYTE=ARSENIC



Background vs East Landfill Pond Frequency Histogram

BARIUM (mg/Kg) in Surface Soils (0–10 inches)

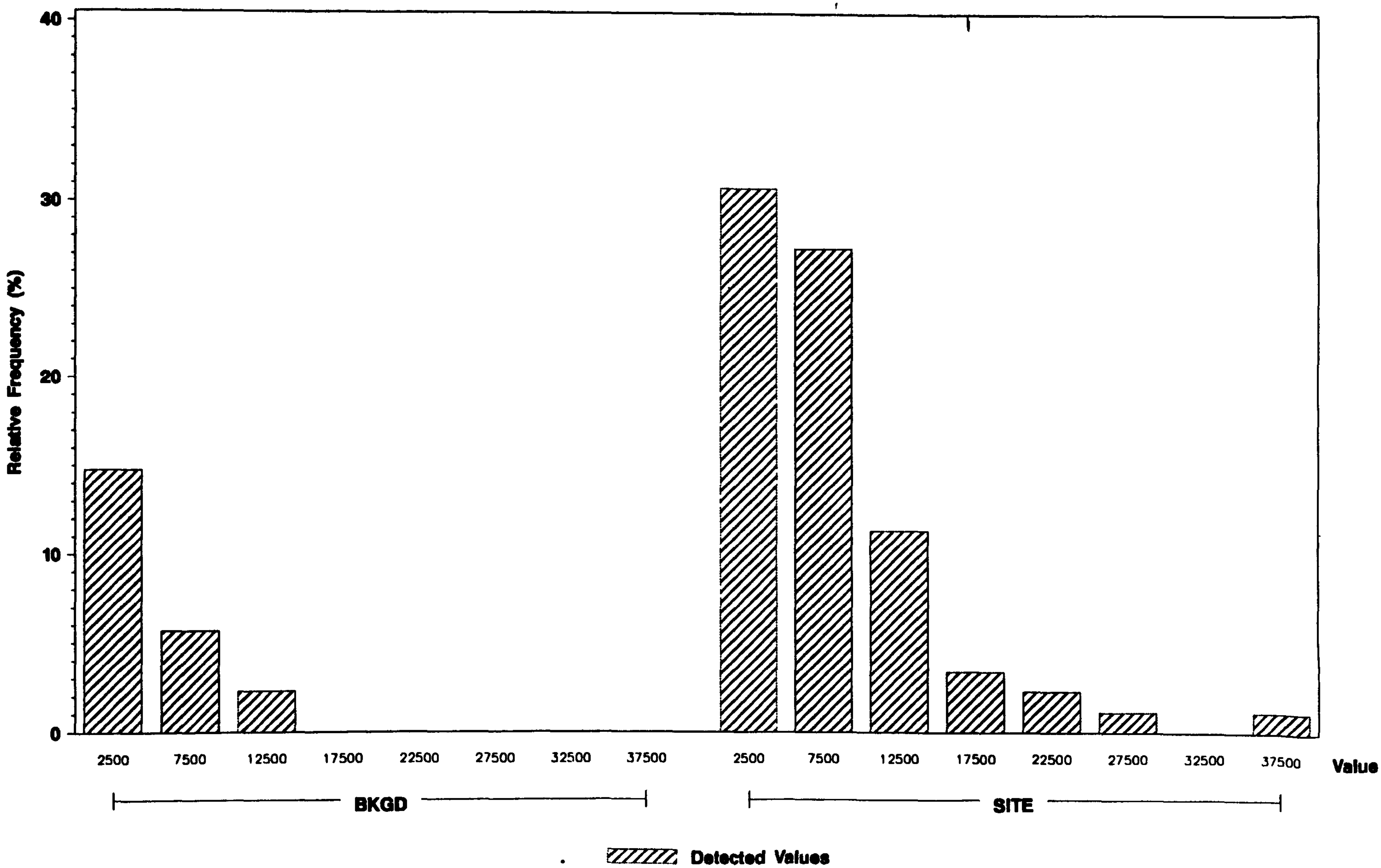
ANALYTE=BARIUM



Background vs East Landfill Pond Frequency Histogram

CALCIUM (mg/Kg) in Surface Soils (0 – 10 inches)

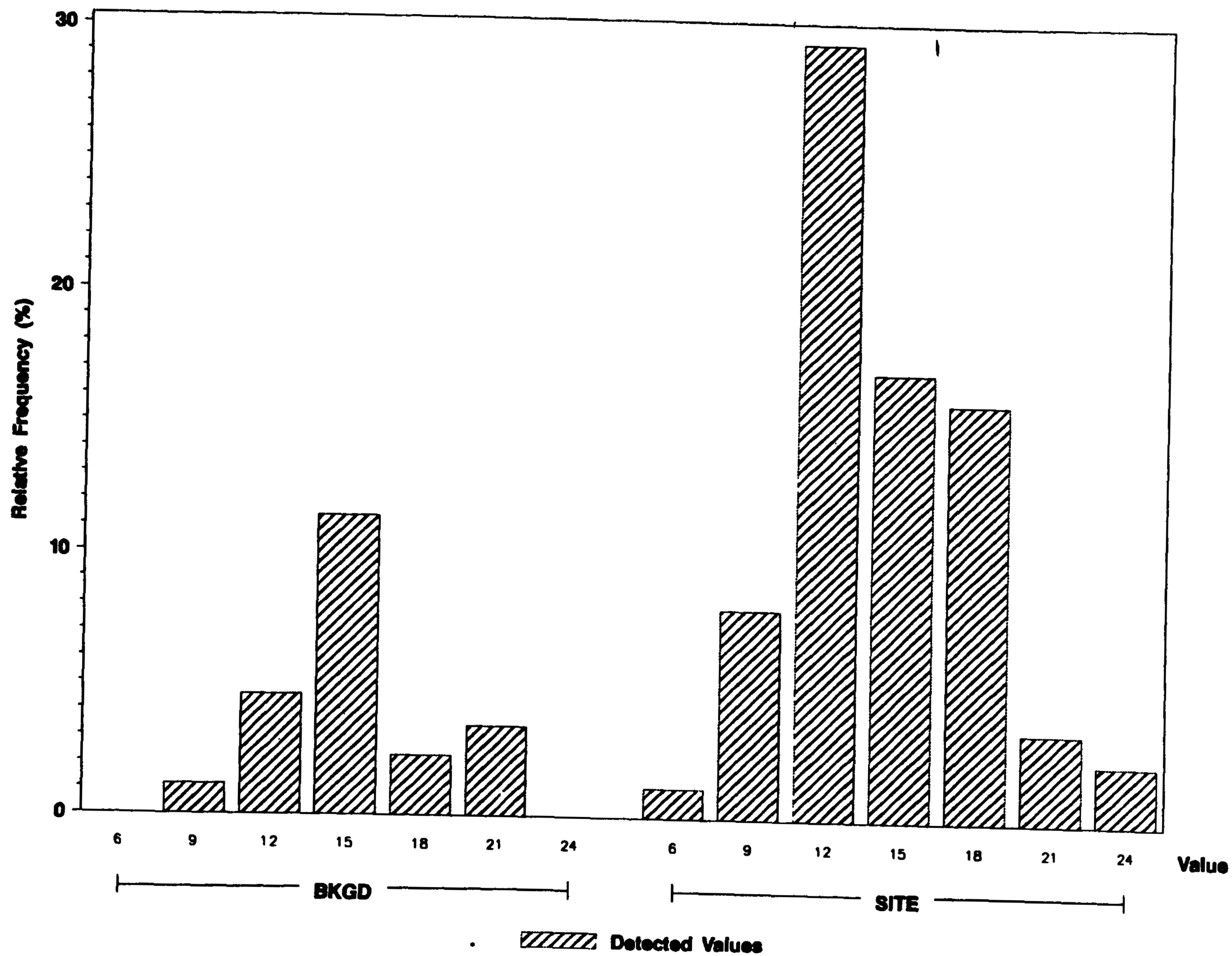
ANALYTE = CALCIUM



Background vs East Landfill Pond Frequency Histogram

CHROMIUM (mg/Kg) in Surface Soils (0–10 inches)

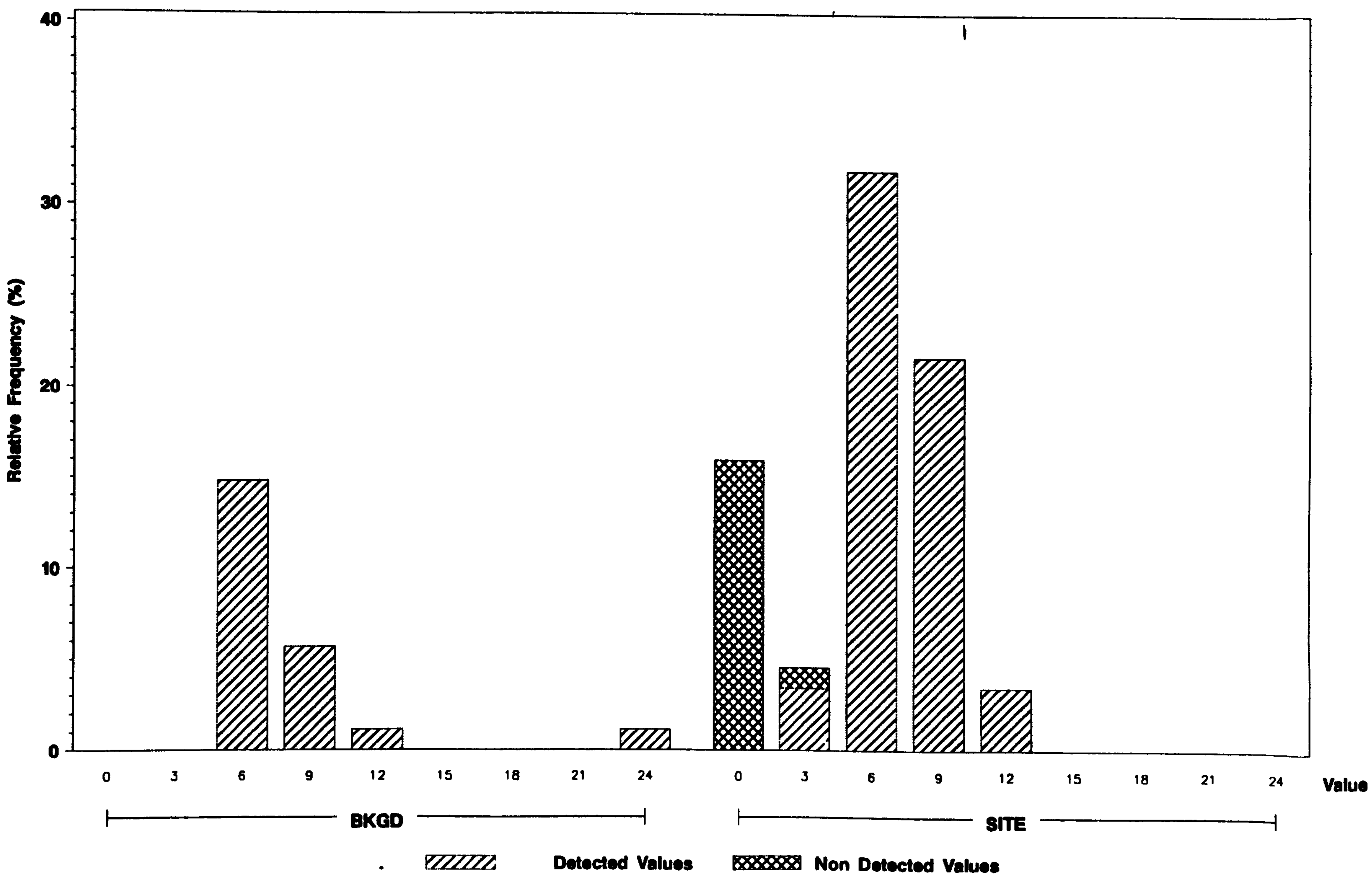
ANALYTE=CHROMIUM



Background vs East Landfill Pond Frequency Histogram

COBALT (mg/Kg) in Surface Soils (0 – 10 inches)

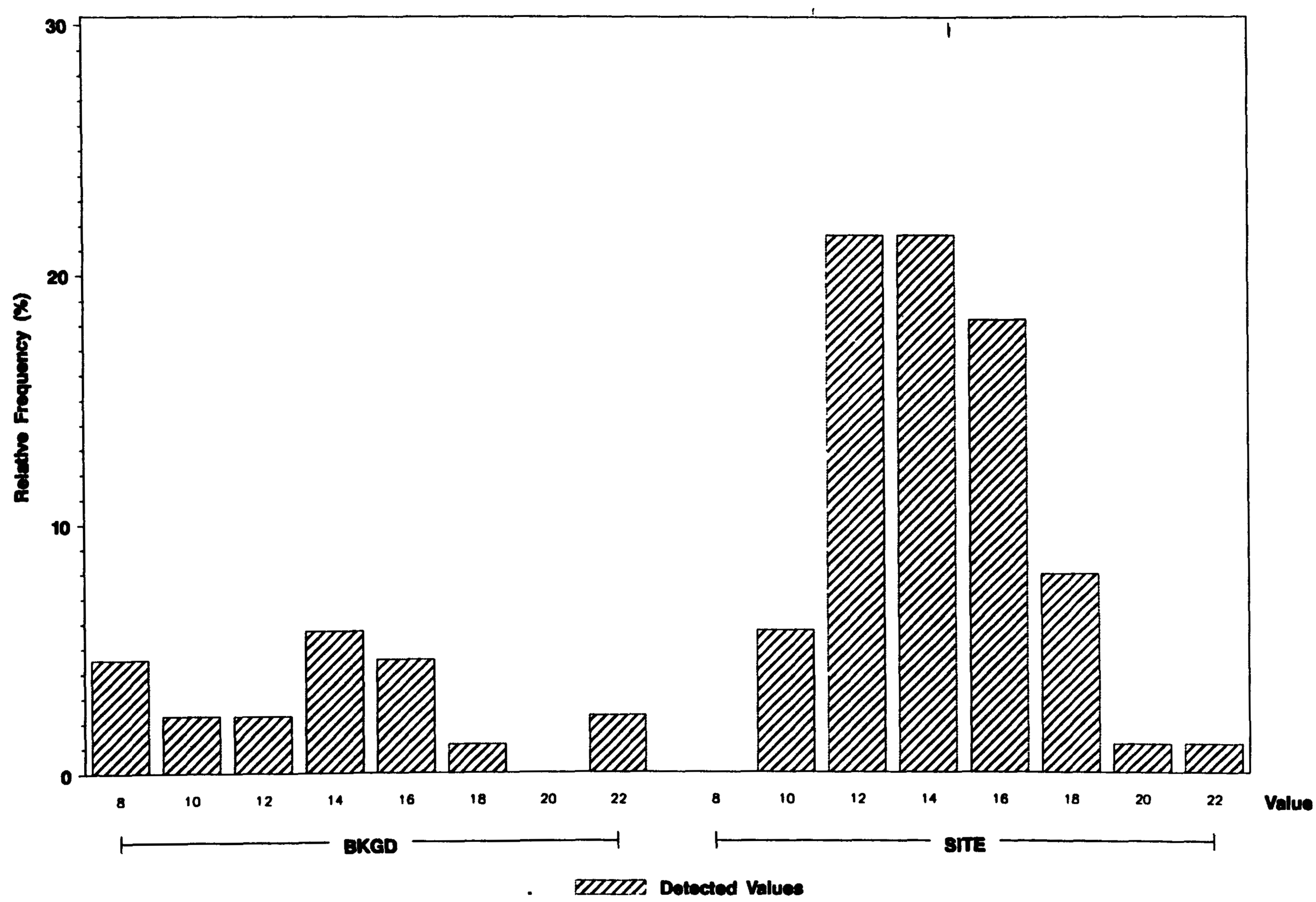
ANALYTE = COBALT



Background vs East Landfill Pond Frequency Histogram

COPPER (mg/Kg) in Surface Soils (0–10 inches)

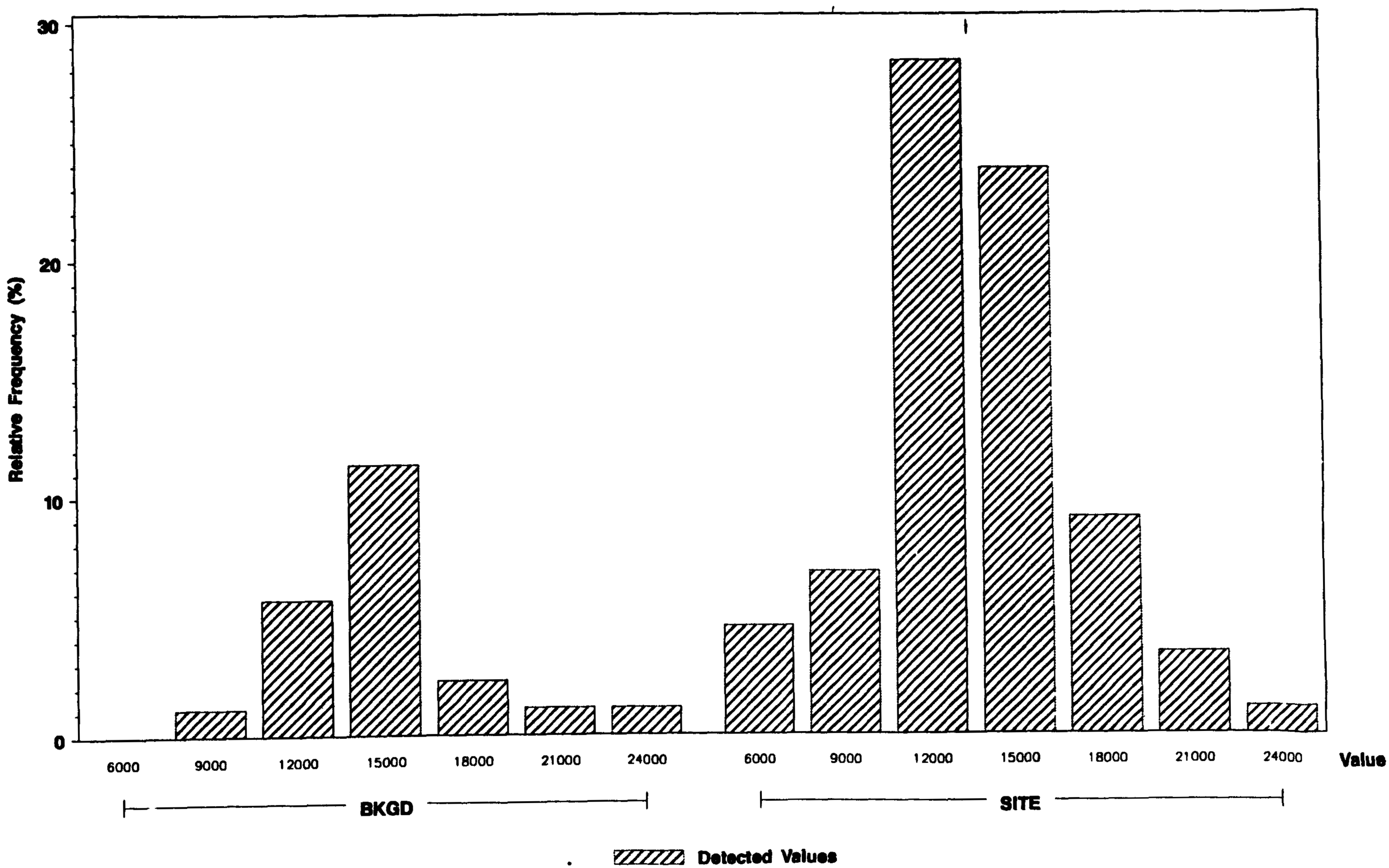
ANALYTE=COPPER



Background vs East Landfill Pond Frequency Histogram

IRON (mg/Kg) in Surface Soils (0–10 inches)

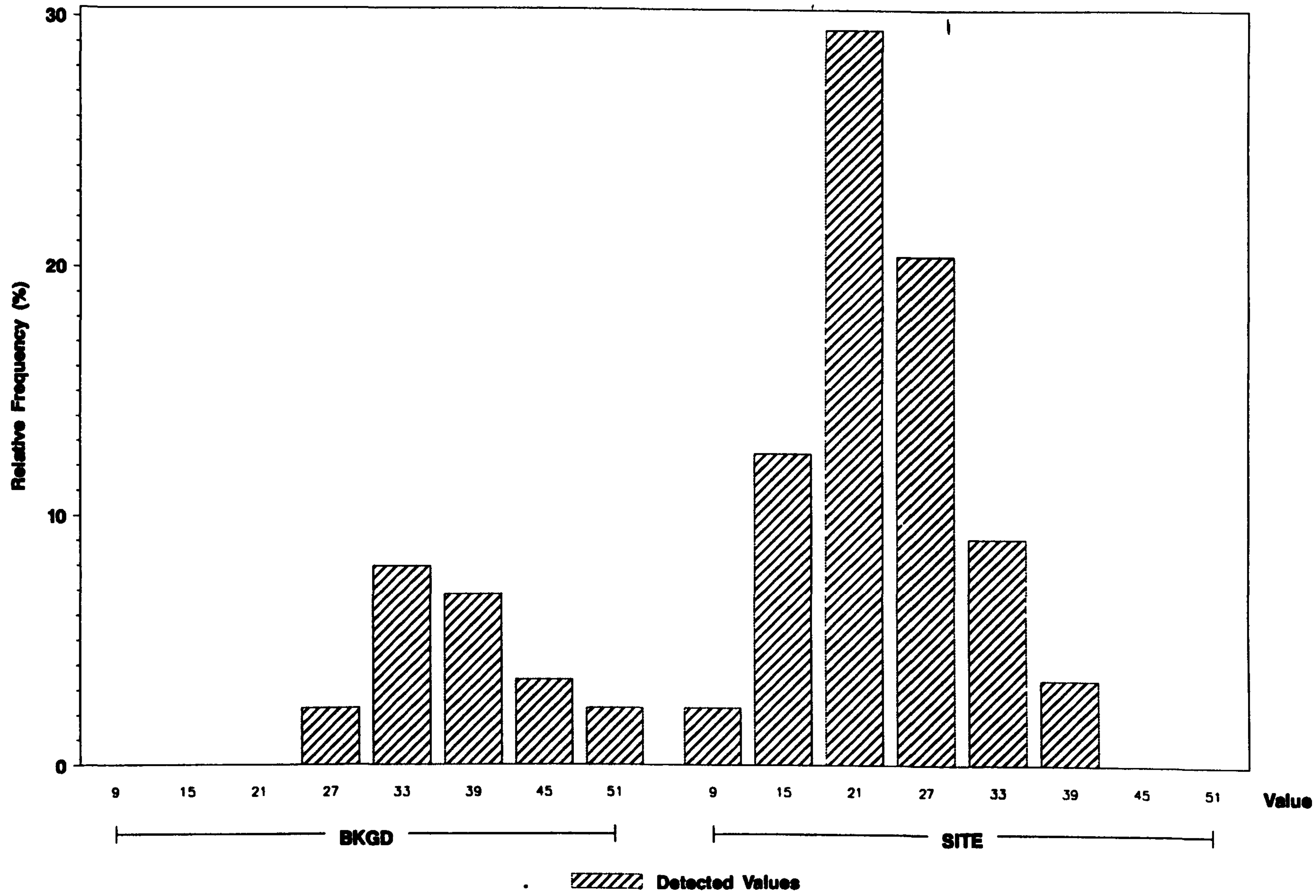
ANALYTE=IRON



Background vs East Landfill Pond Frequency Histogram

LEAD (mg/Kg) in Surface Soils (0–10 inches)

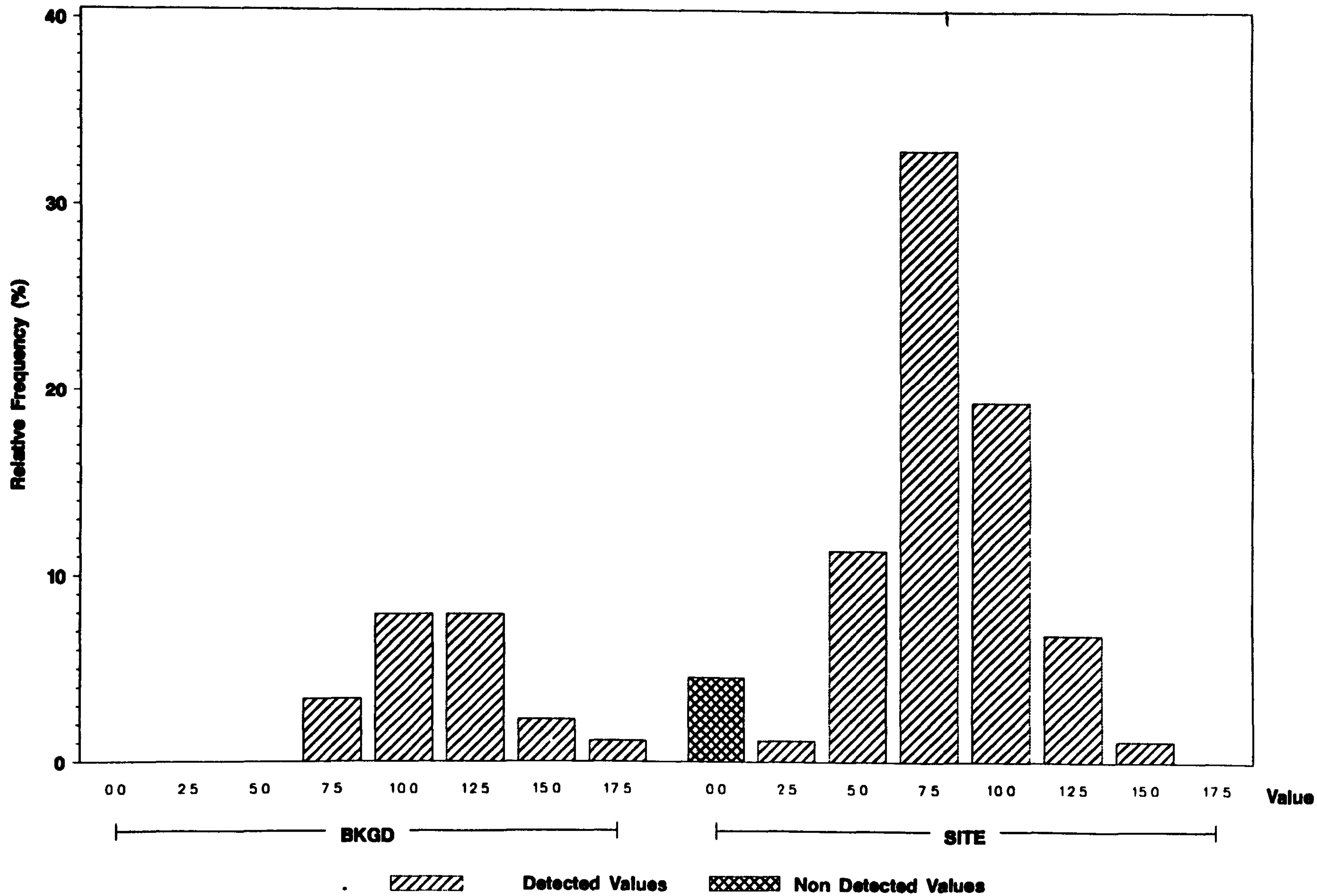
ANALYTE=LEAD



Background vs East Landfill Pond Frequency Histogram

LITHIUM (mg/Kg) in Surface Soils (0 – 10 Inches)

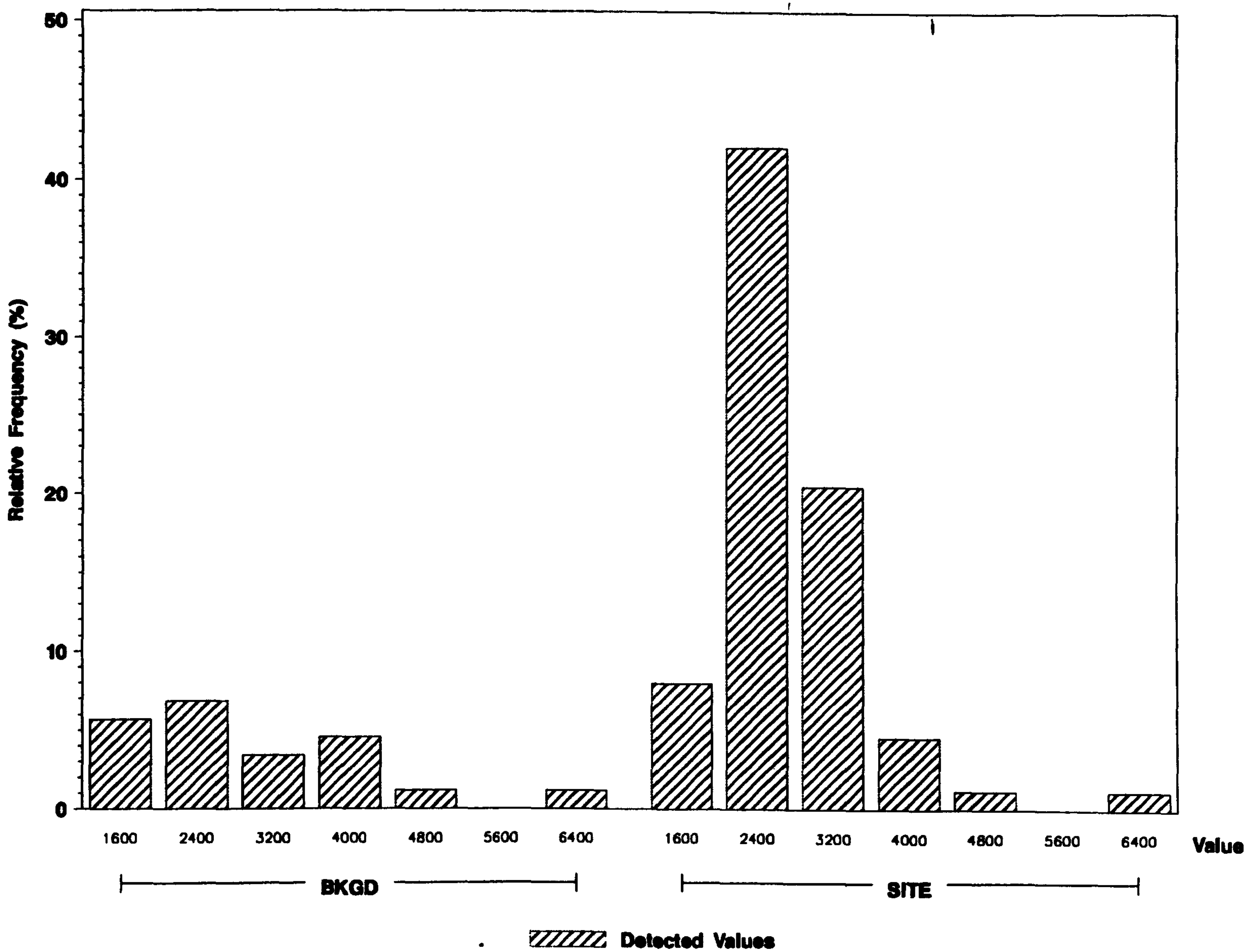
ANALYTE = LITHIUM



Background vs East Landfill Pond Frequency Histogram

MAGNESIUM (mg/Kg) in Surface Soils (0 – 10 inches)

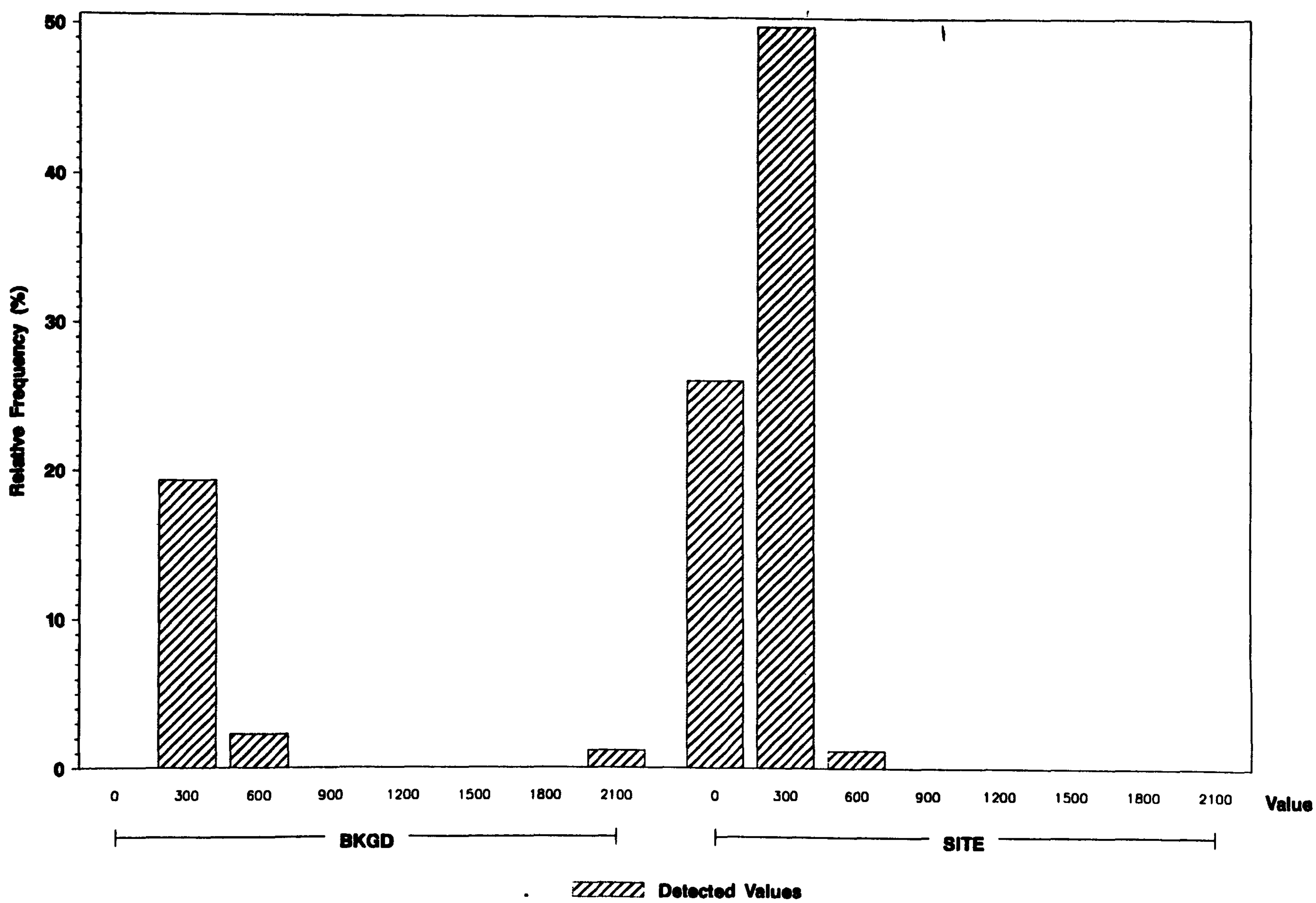
ANALYTE = MAGNESIUM



Background vs East Landfill Pond Frequency Histogram

MANGANESE (mg/Kg) in Surface Soils (0–10 inches)

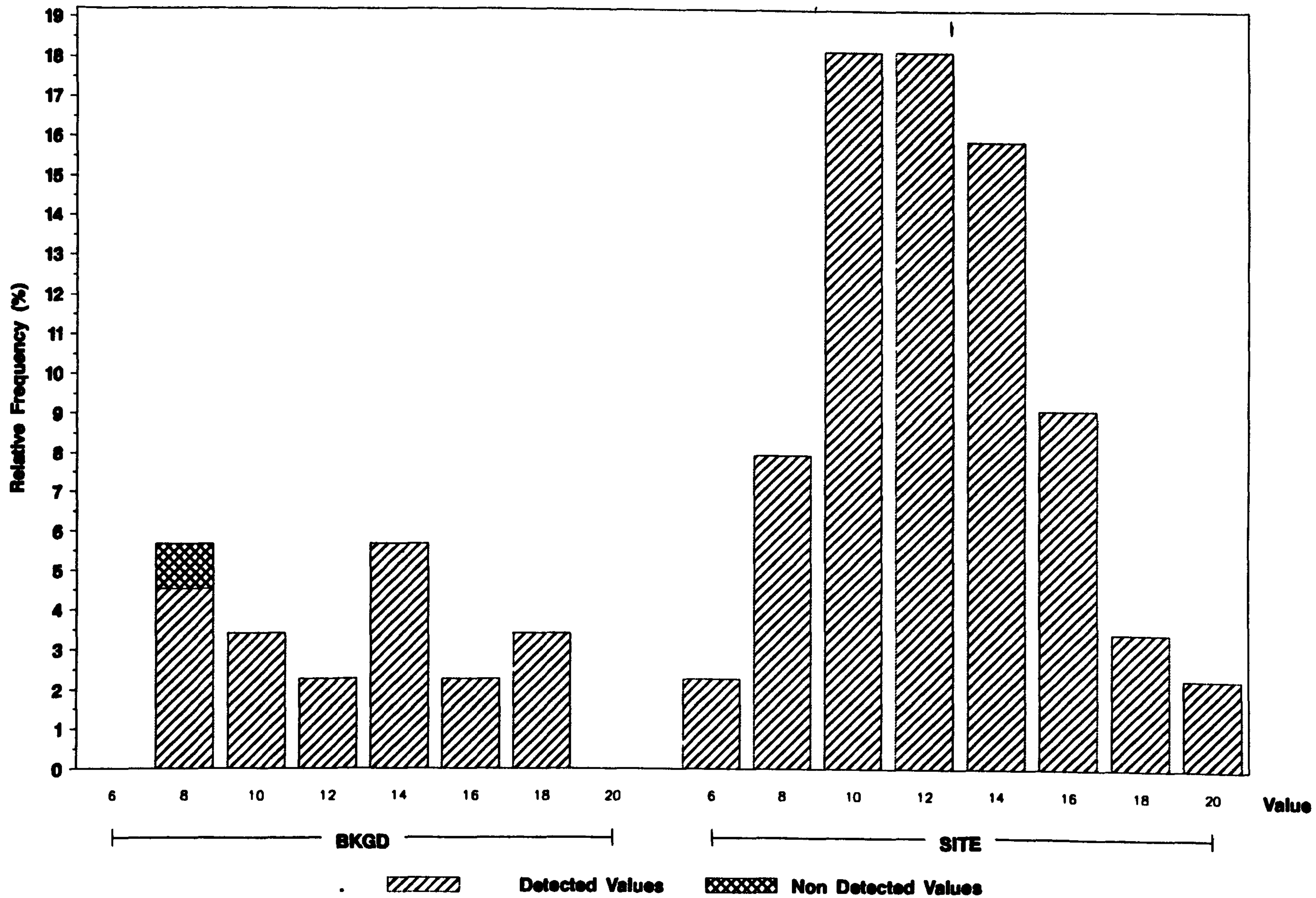
ANALYTE=MANGANESE



Background vs East Landfill Pond Frequency Histogram

NICKEL (mg/Kg) in Surface Soils (0 – 10 inches)

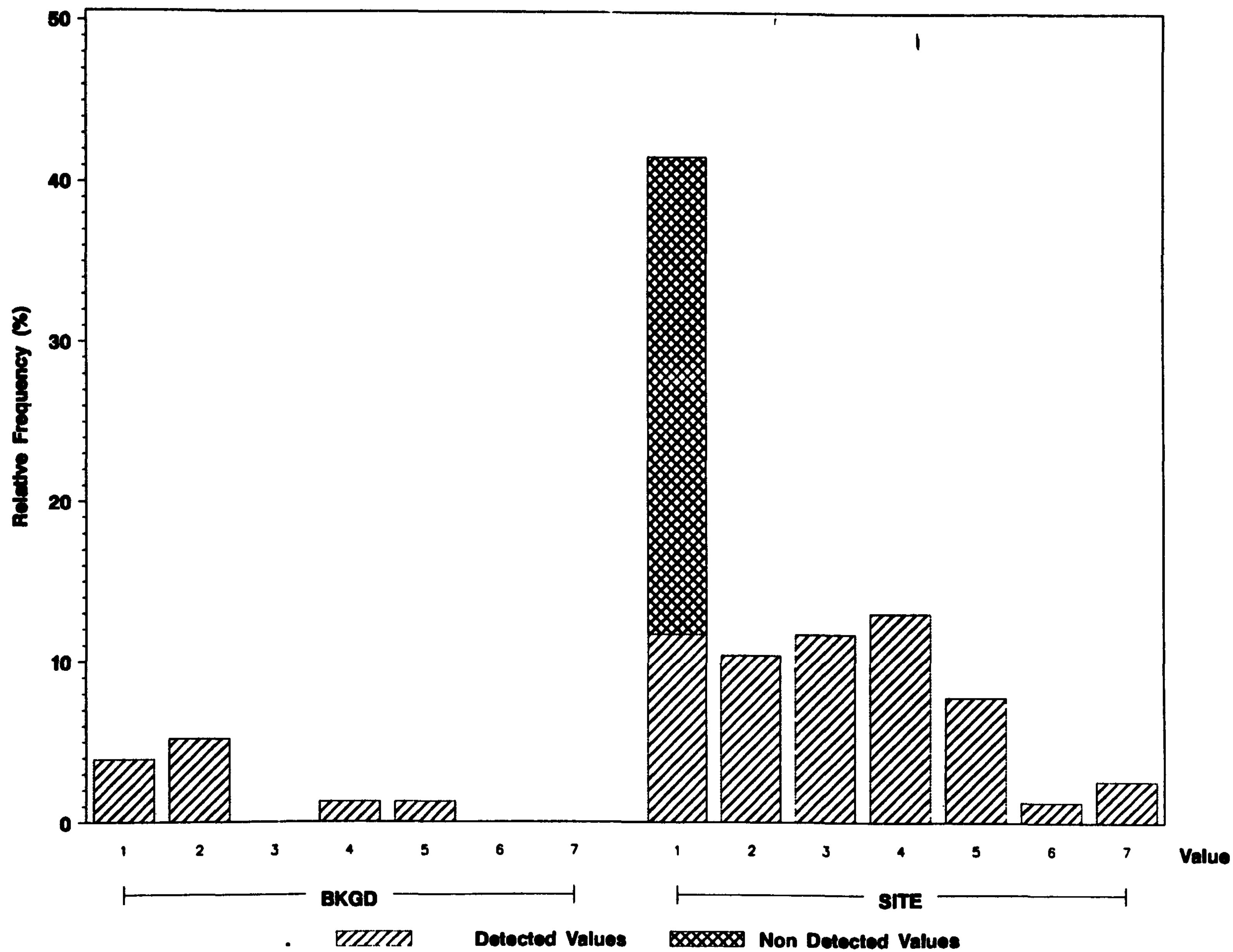
ANALYTE = NICKEL



Background vs East Landfill Pond Frequency Histogram

NITRATE/NITRITE (mg/Kg) in Surface Soils (0–10 inches)

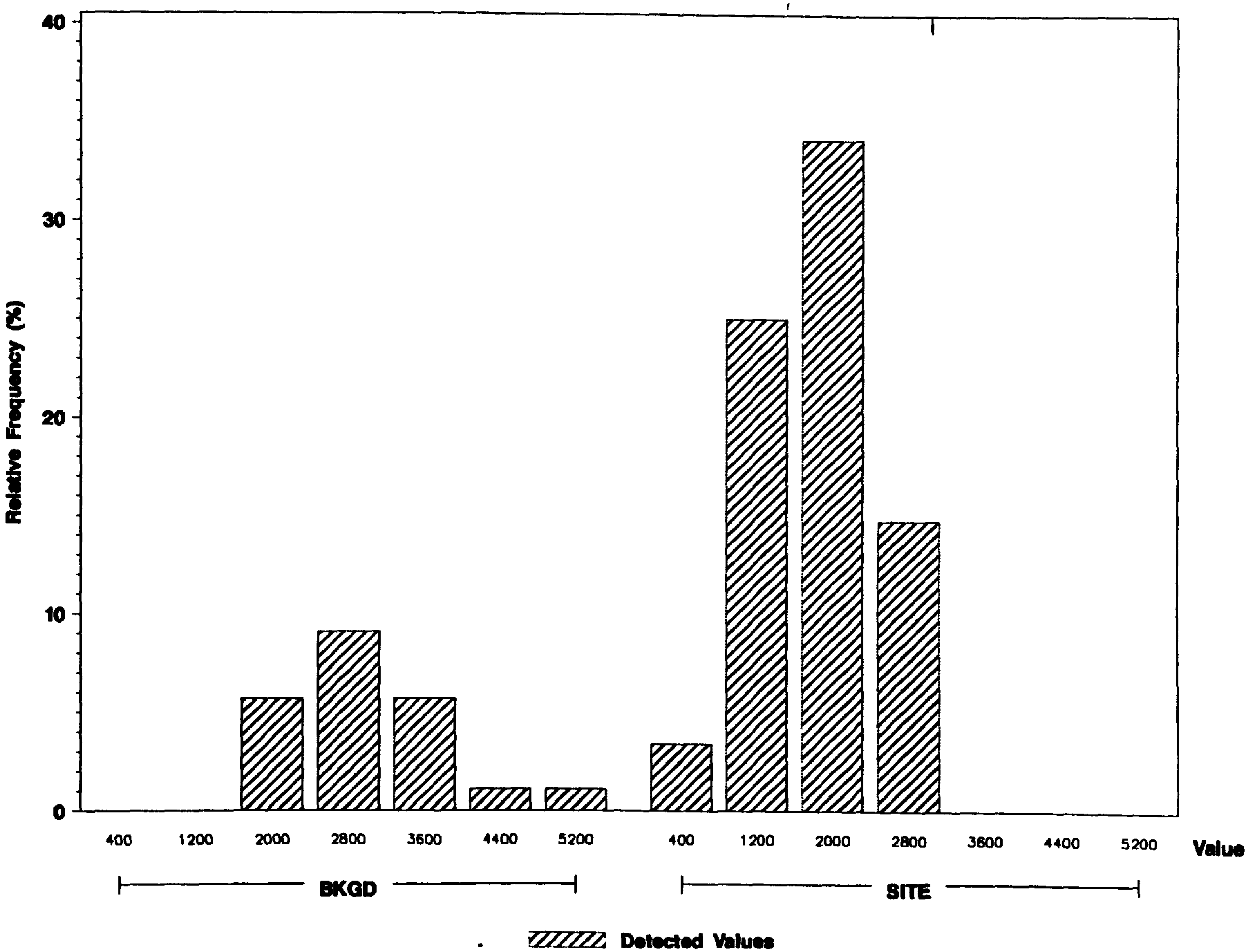
ANALYTE=NITRATE/NITRITE



Background vs East Landfill Pond Frequency Histogram

POTASSIUM (mg/Kg) in Surface Soils (0–10 inches)

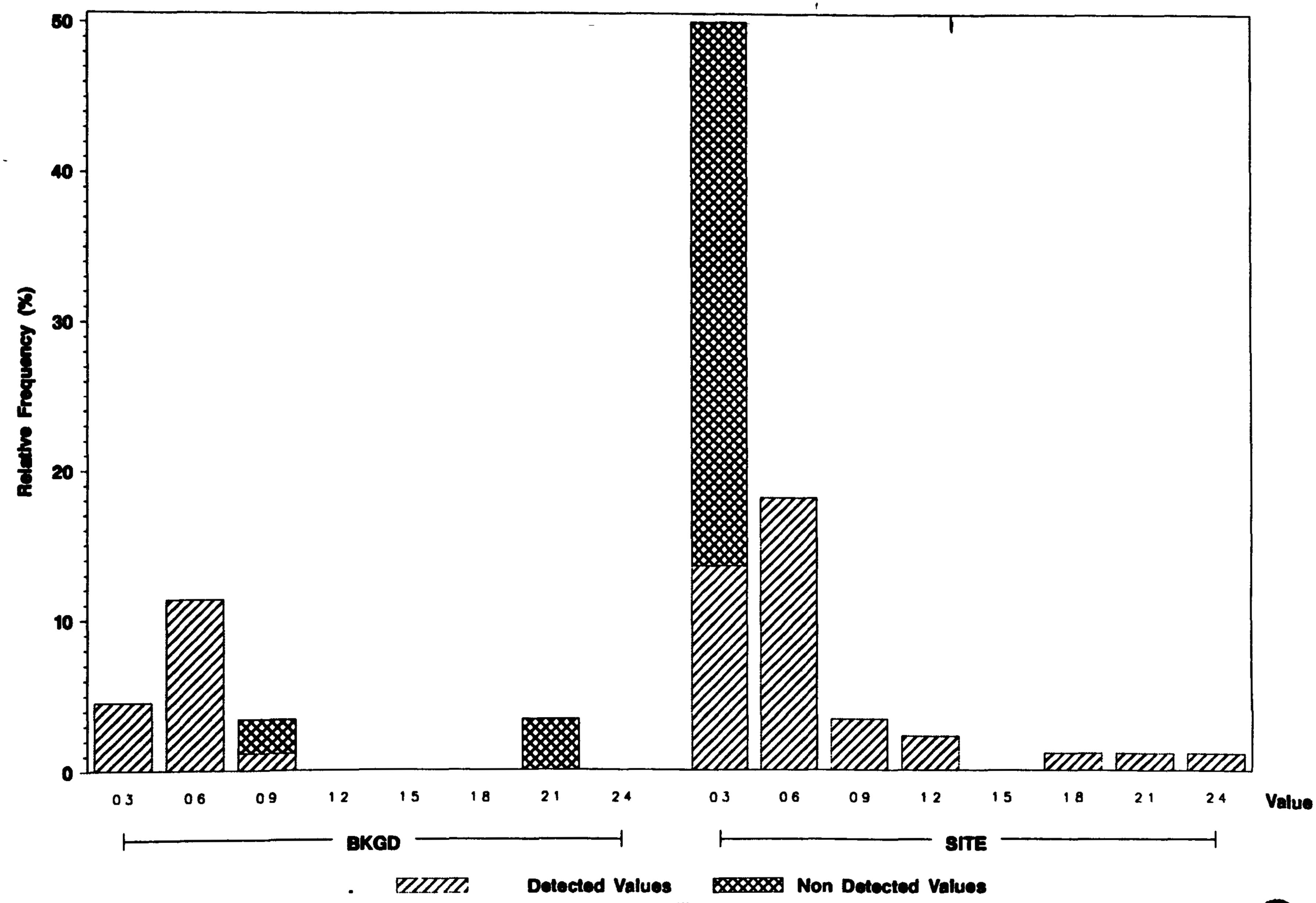
ANALYTE=POTASSIUM



Background vs East Landfill Pond Frequency Histogram

SELENIUM (mg/Kg) in Surface Soils (0 – 10 inches)

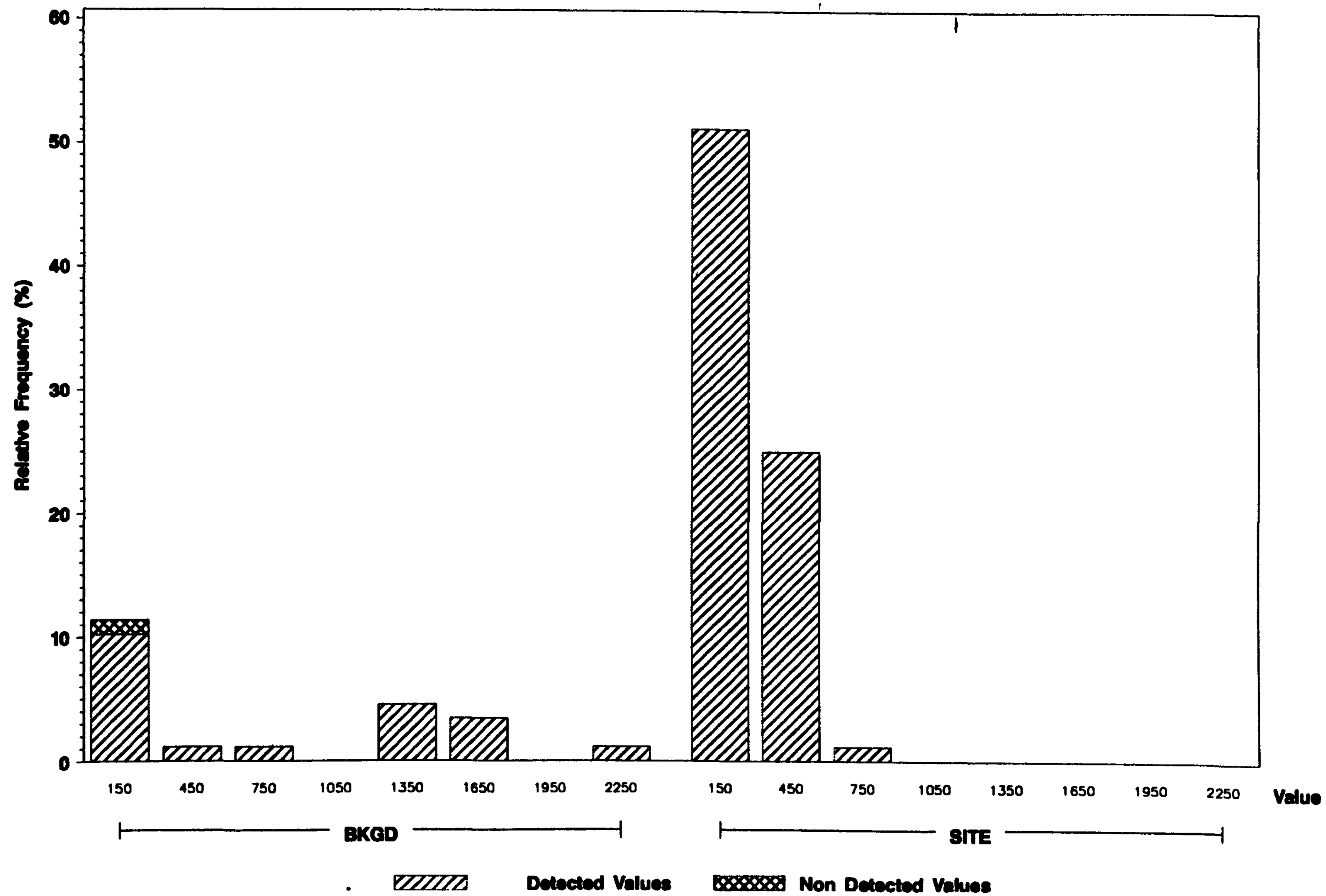
ANALYTE = SELENIUM



Background vs East Landfill Pond Frequency Histogram

SILICON (mg/Kg) in Surface Soils (0–10 inches)

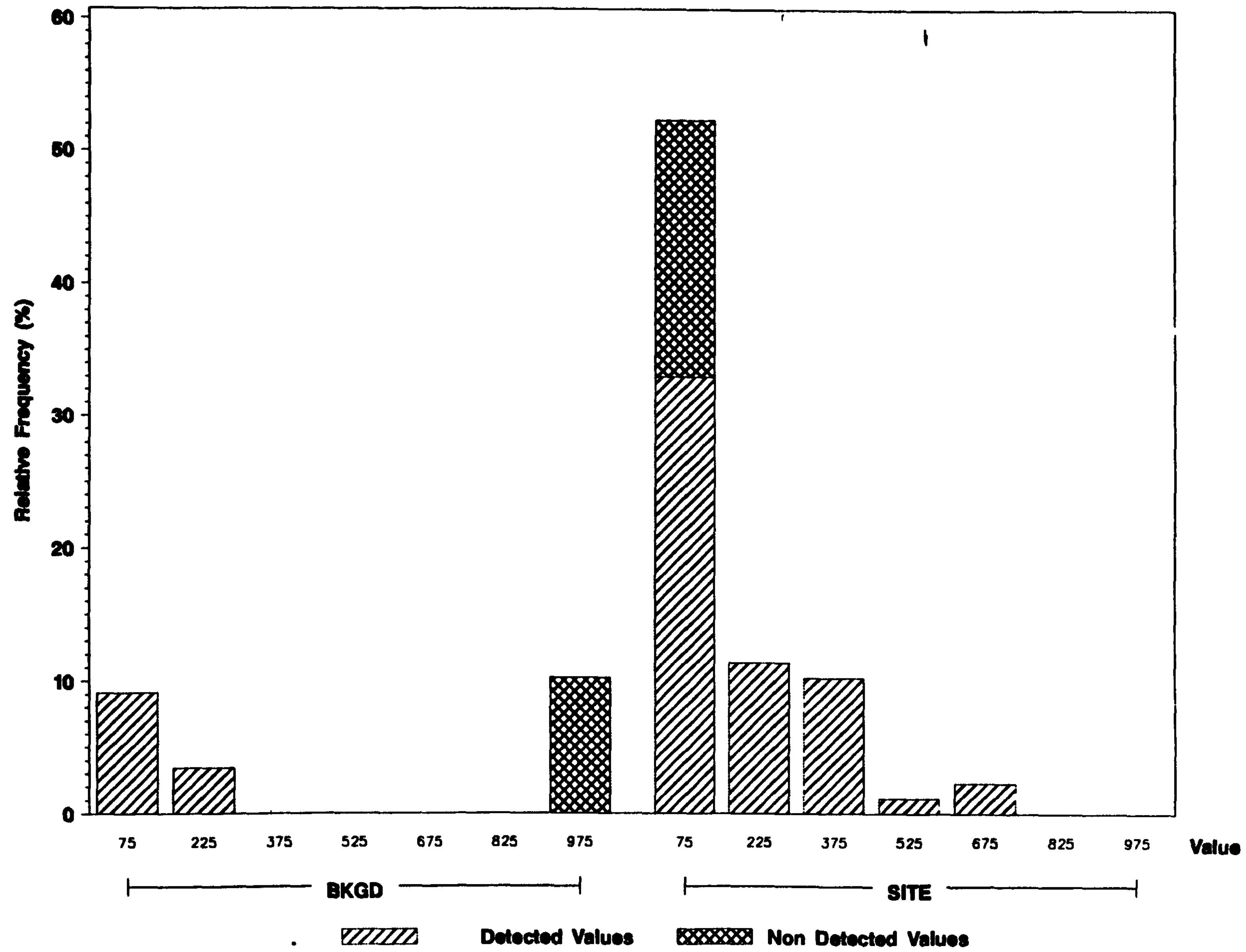
ANALYTE=SILICON



Background vs East Landfill Pond Frequency Histogram

SODIUM (mg/Kg) in Surface Soils (0–10 inches)

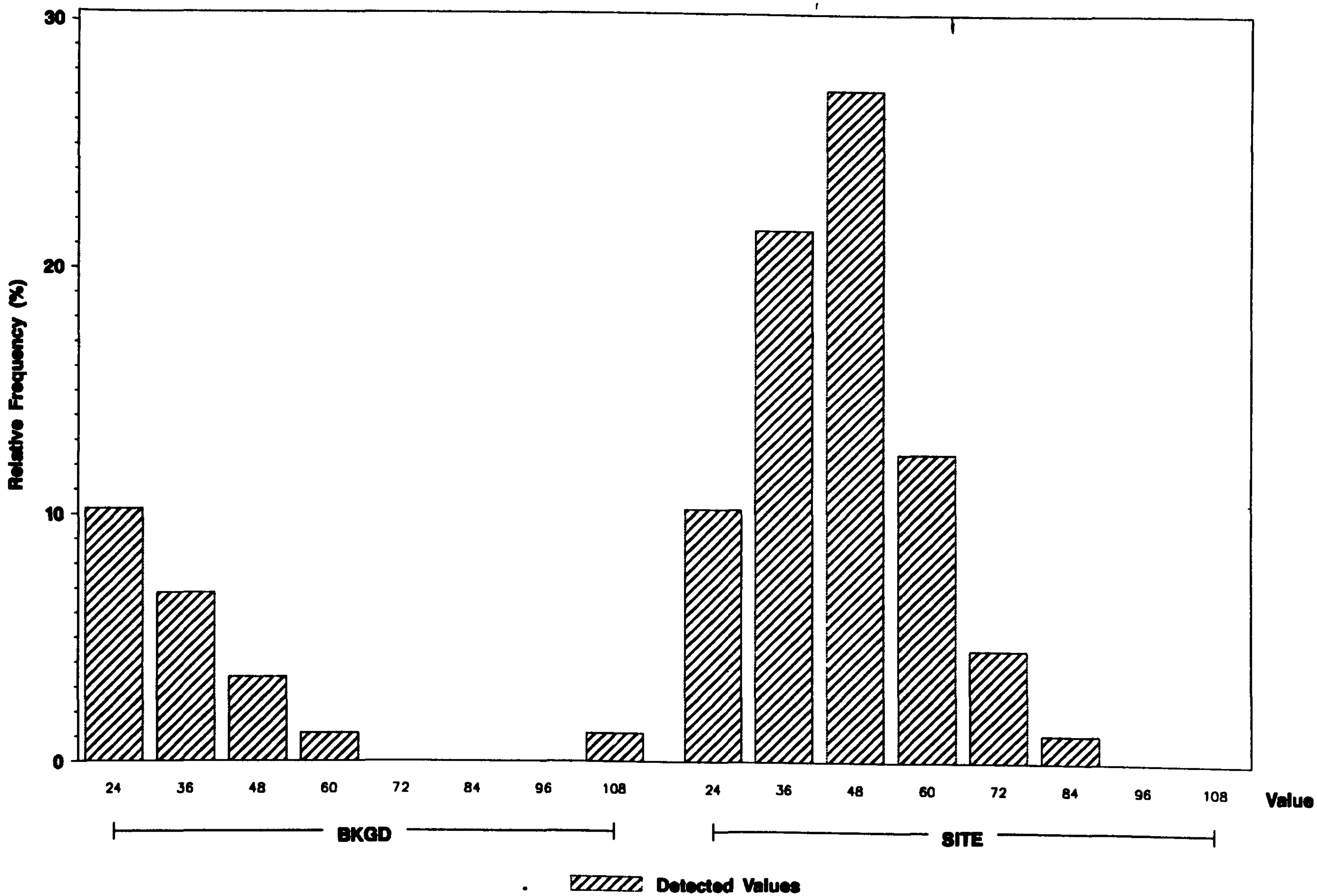
ANALYTE=SODIUM



Background vs East Landfill Pond Frequency Histogram

STRONTIUM (mg/Kg) in Surface Soils (0 – 10 inches)

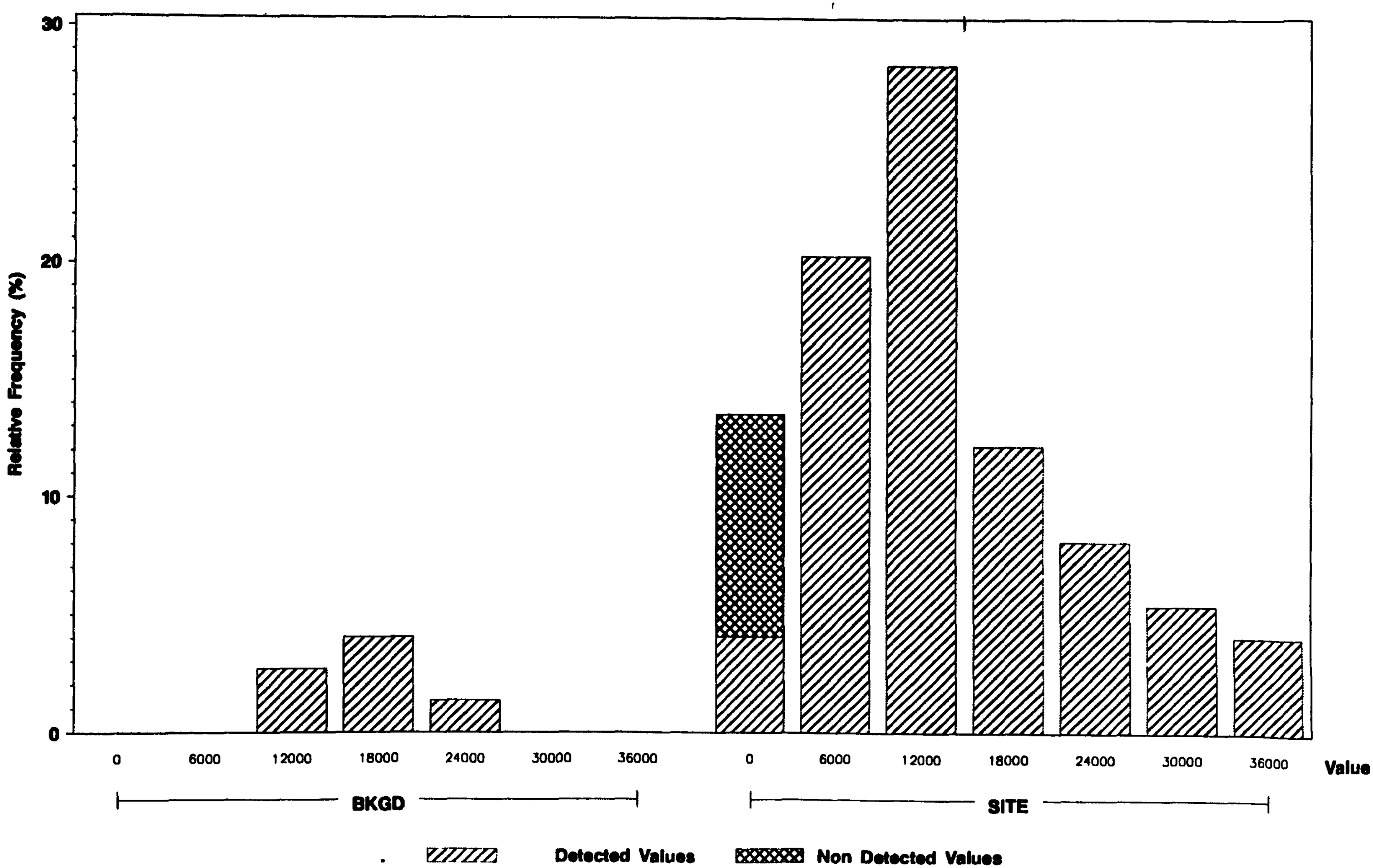
ANALYTE = STRONTIUM



Background vs East Landfill Pond Frequency Histogram

TOTAL ORGANIC CARBON (mg/Kg) in Surface Soils (0–10 inches)

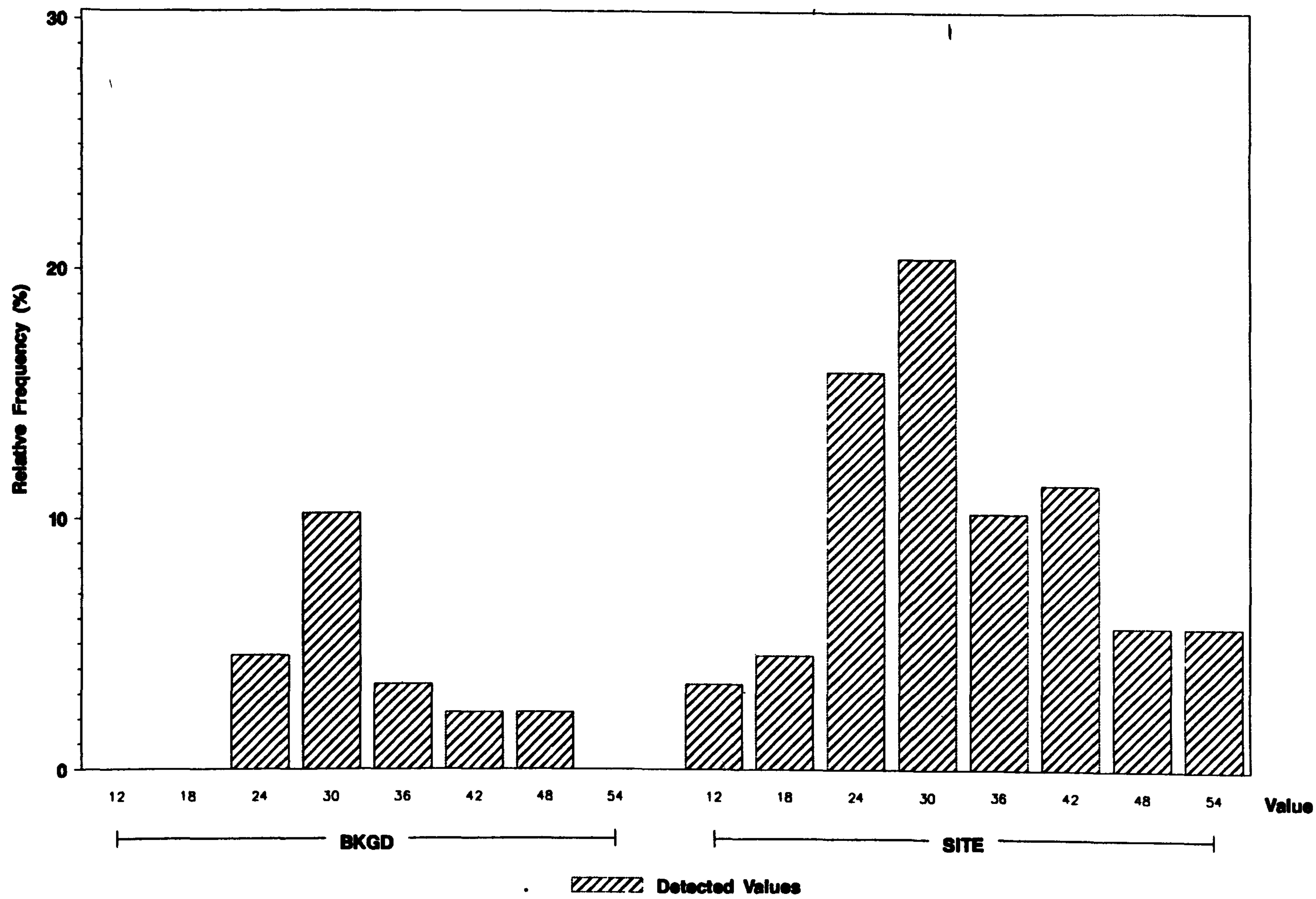
ANALYTE=TOTAL ORGANIC CARBON



Background vs East Landfill Pond Frequency Histogram

VANADIUM (mg/Kg) in Surface Soils (0–10 inches)

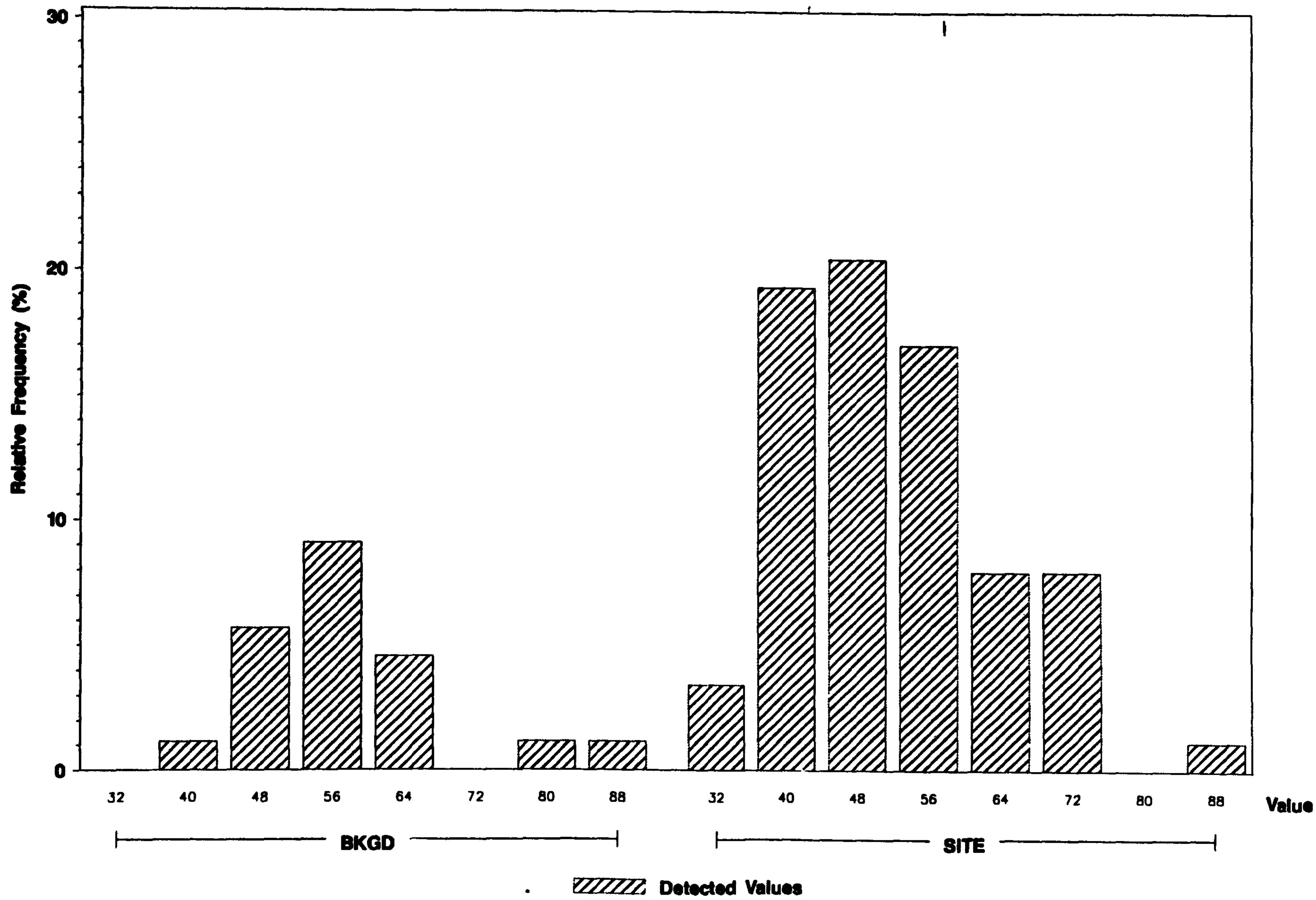
ANALYTE=VANADIUM



Background vs East Landfill Pond Frequency Histogram

ZINC (mg/Kg) in Surface Soils (0 – 10 inches)

ANALYTE=ZINC



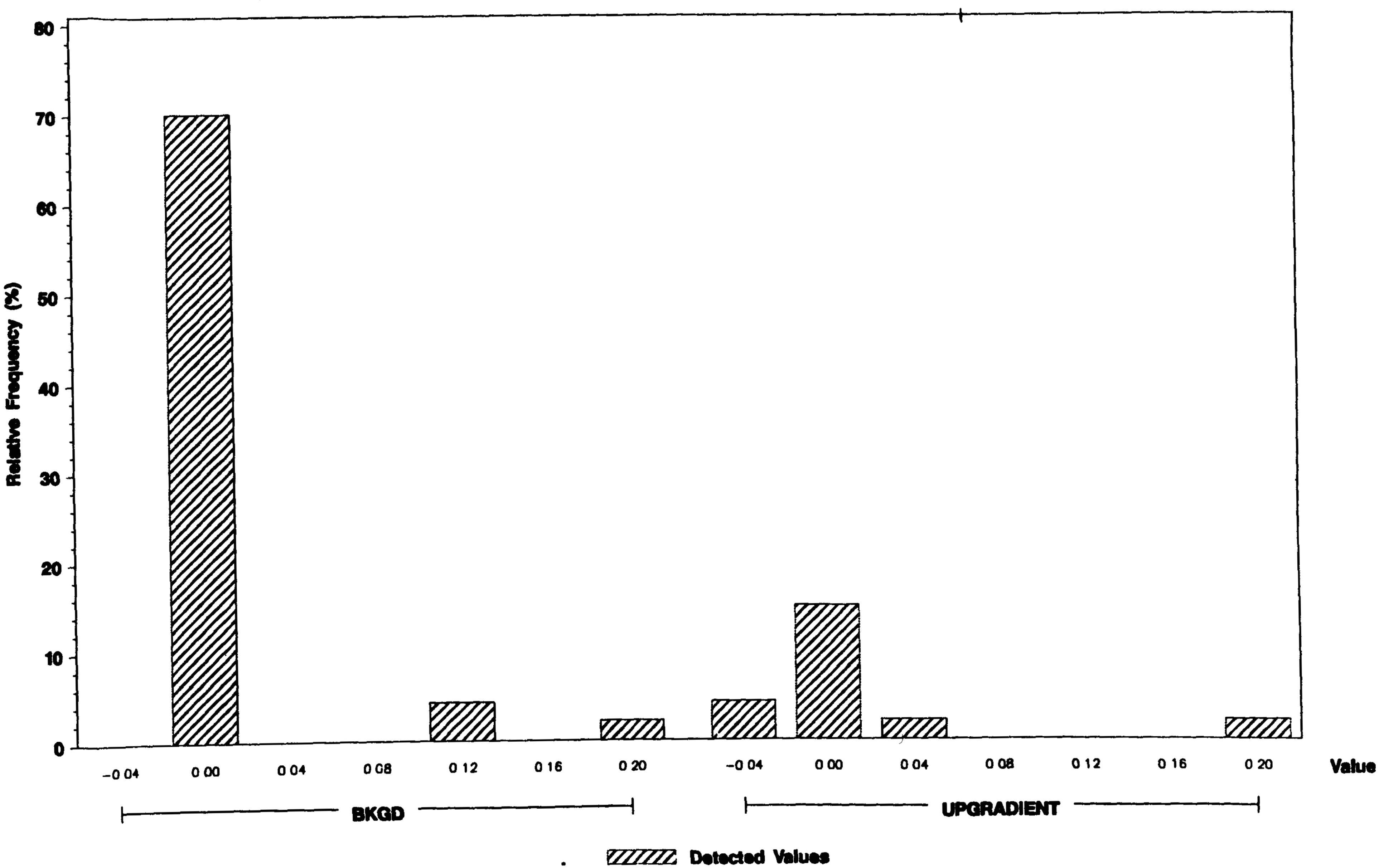
Subsurface Geologic Materials

Background vs. Ou 7 Upgradient Qrf

Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

CESIUM-137 (pCi/g) In Subsurface Geologic Materials

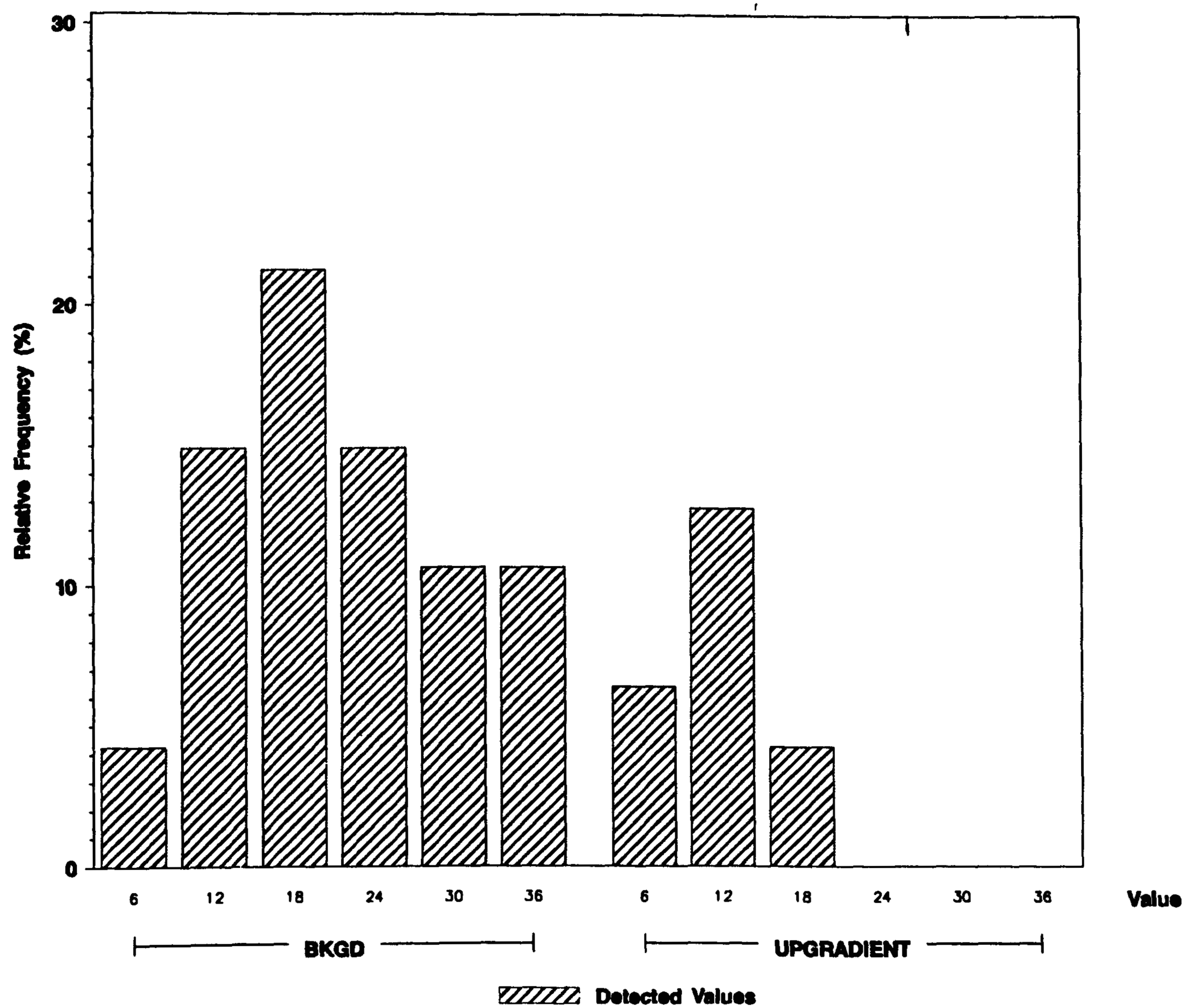
ANALYTE = CESIUM-137



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

GROSS ALPHA (pCi/g) in Subsurface Geologic Materials

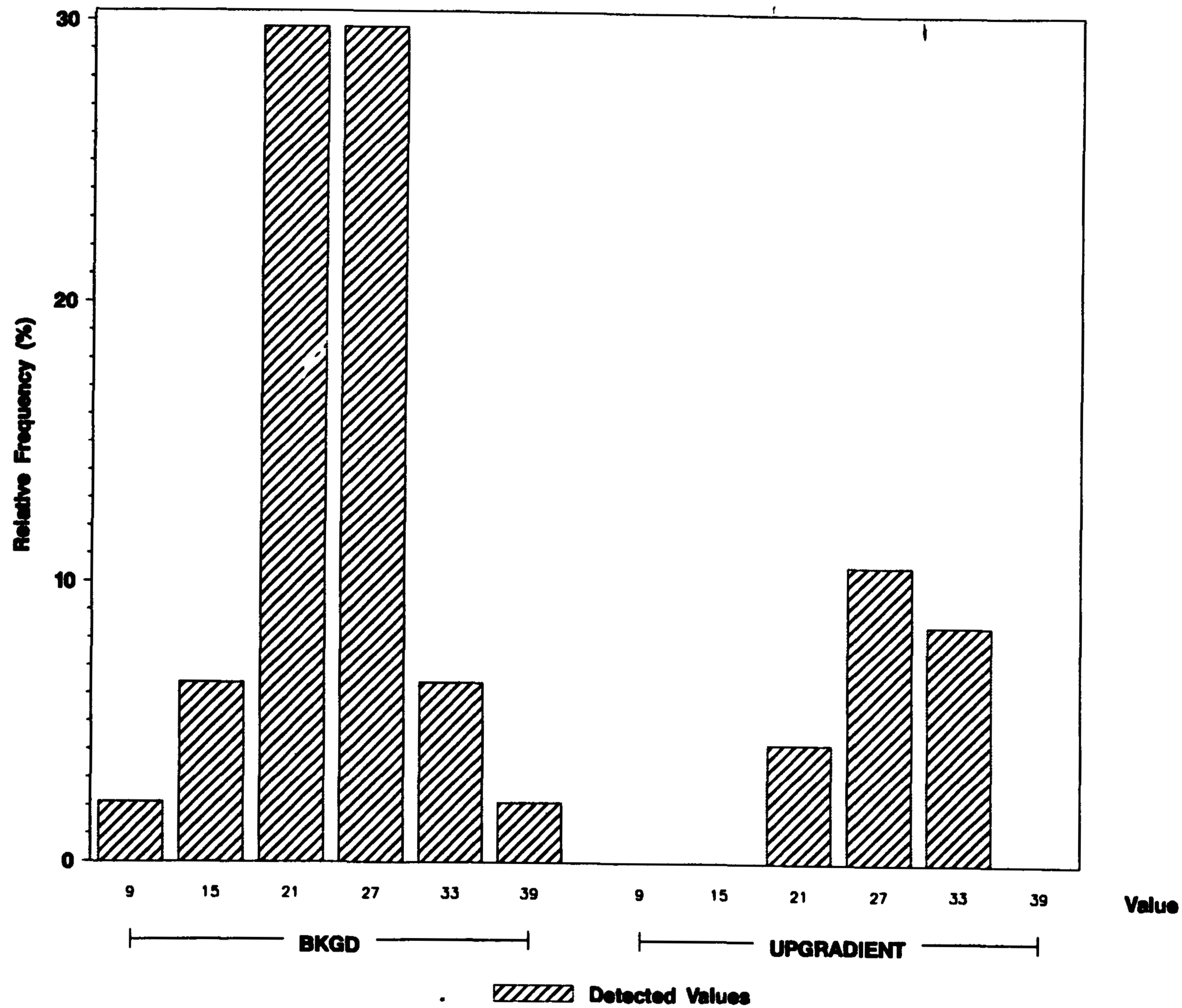
ANALYTE=GROSS ALPHA



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

GROSS BETA (pCi/g) in Subsurface Geologic Materials

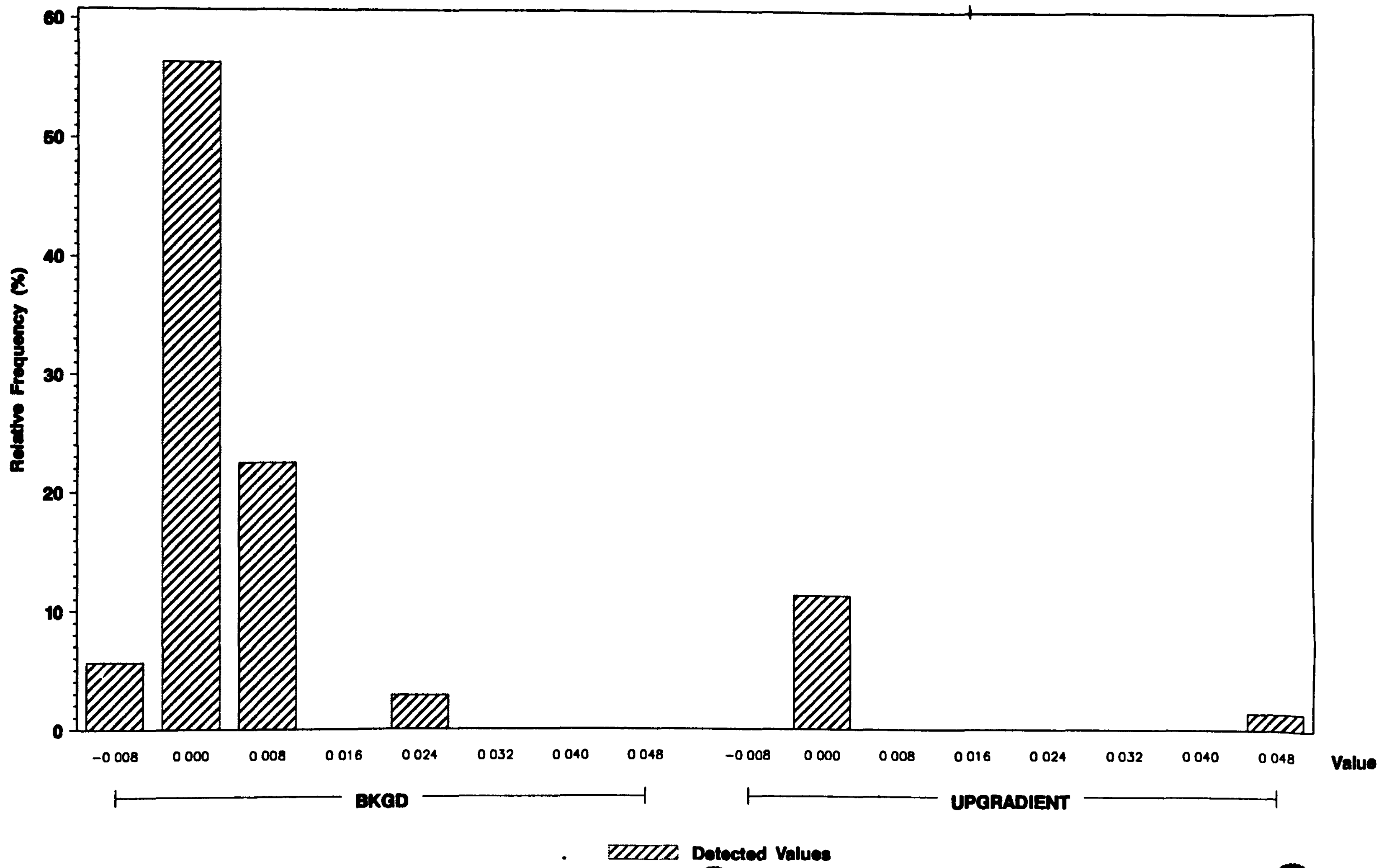
ANALYTE=GROSS BETA



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

PLUTONIUM – 239,240 (pCi/g) in Subsurface Geologic Materials

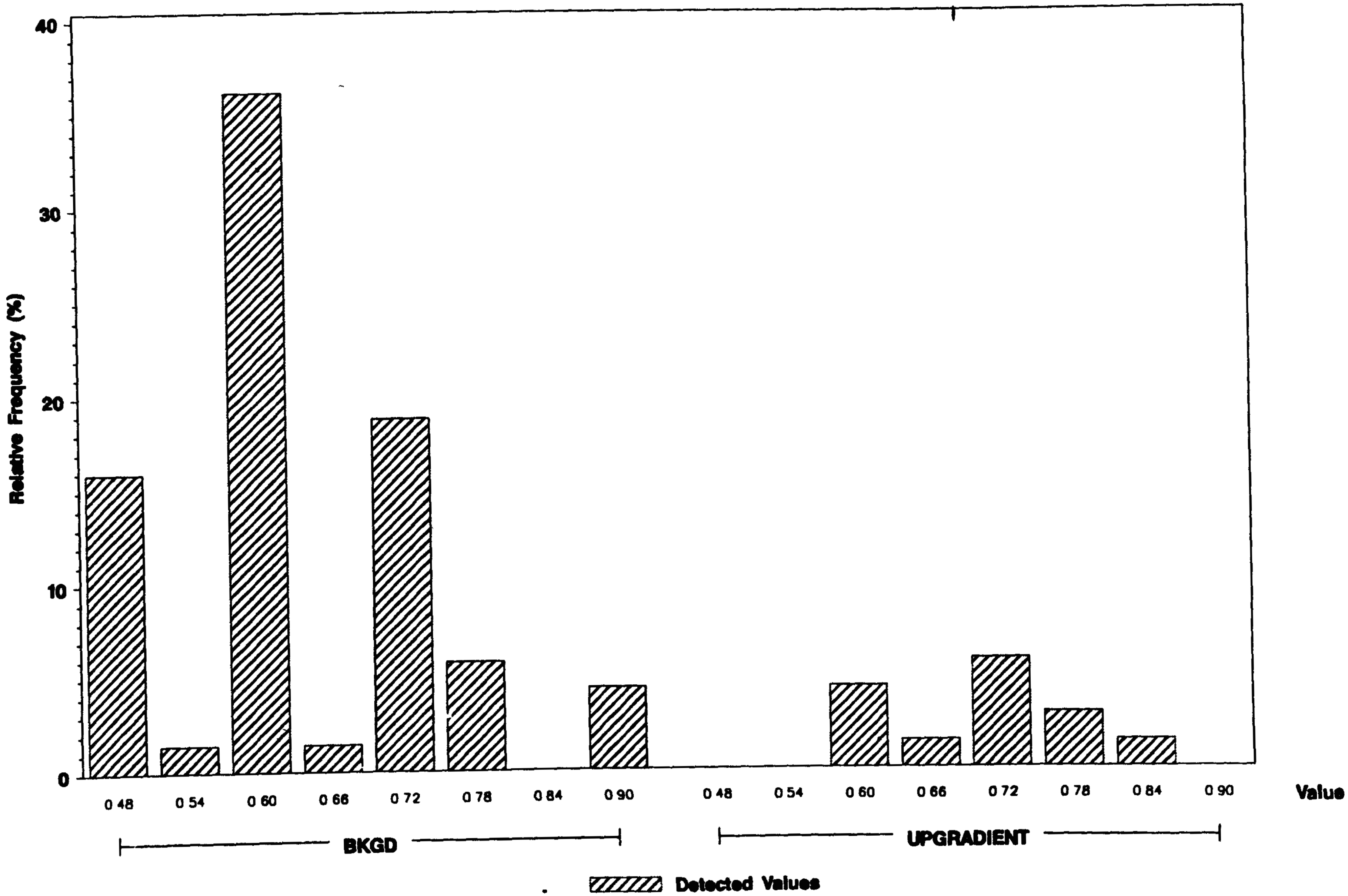
ANALYTE = PLUTONIUM – 239,240



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

RADIUM-226 (pCi/g) In Subsurface Geologic Materials

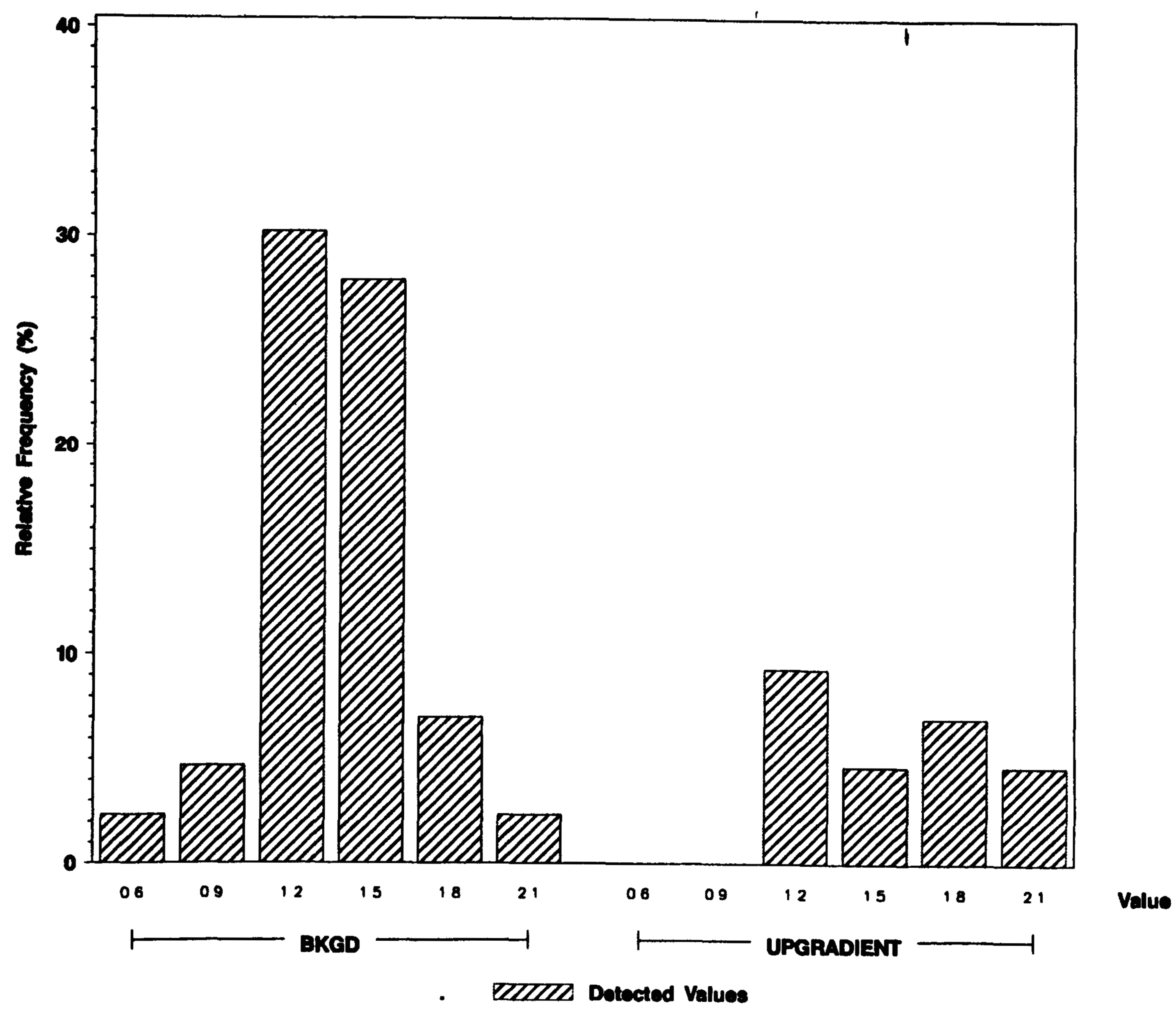
ANALYTE=RADIUM-226



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

RADIUM-228 (pCi/g) In Subsurface Geologic Materials

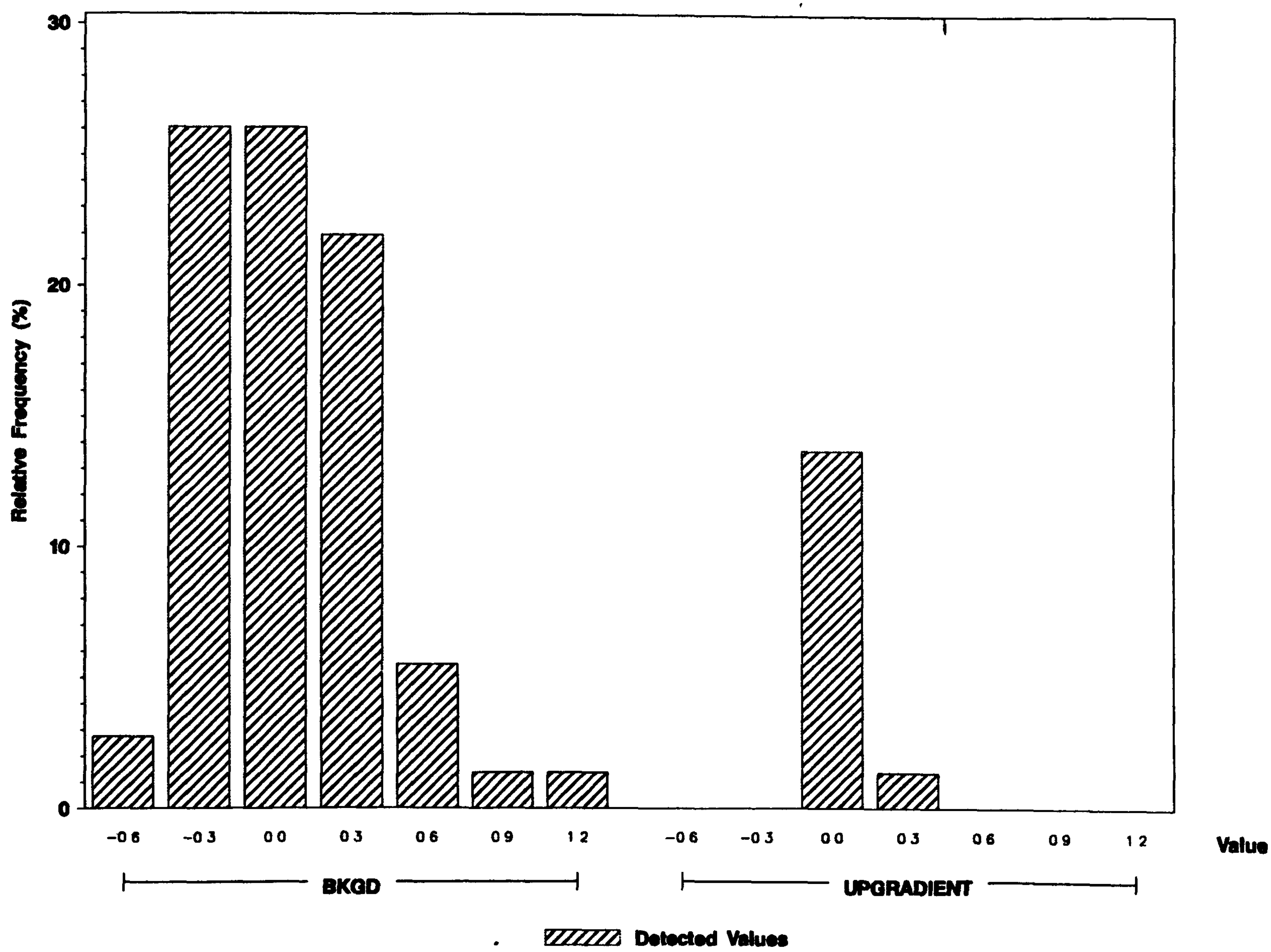
ANALYTE=RADIUM-228



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

STRONTIUM – 89,90 (pCi/g) In Subsurface Geologic Materials

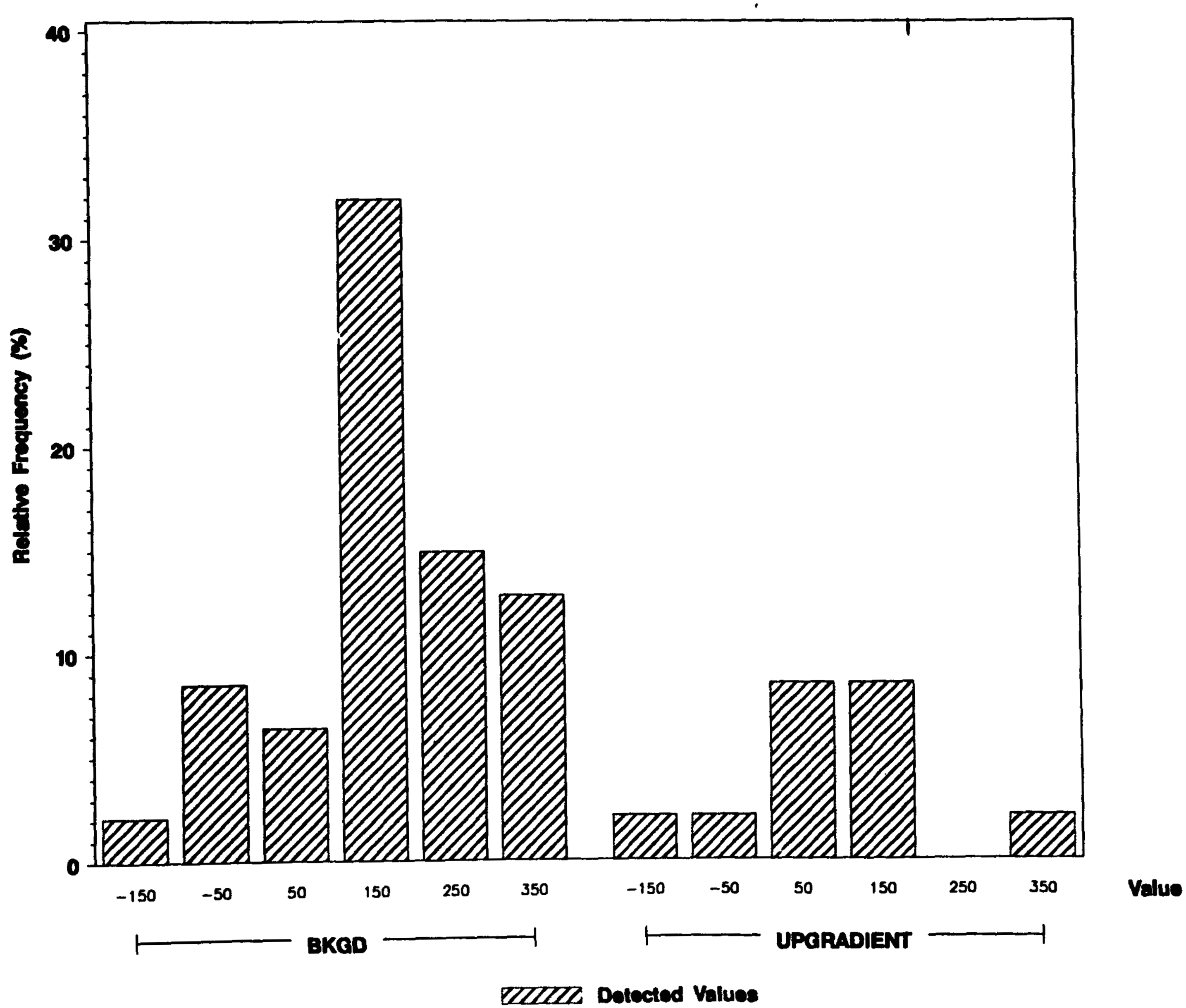
ANALYTE = STRONTIUM – 89,90



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

TRITIUM (pCi/L) In Subsurface Geologic Materials

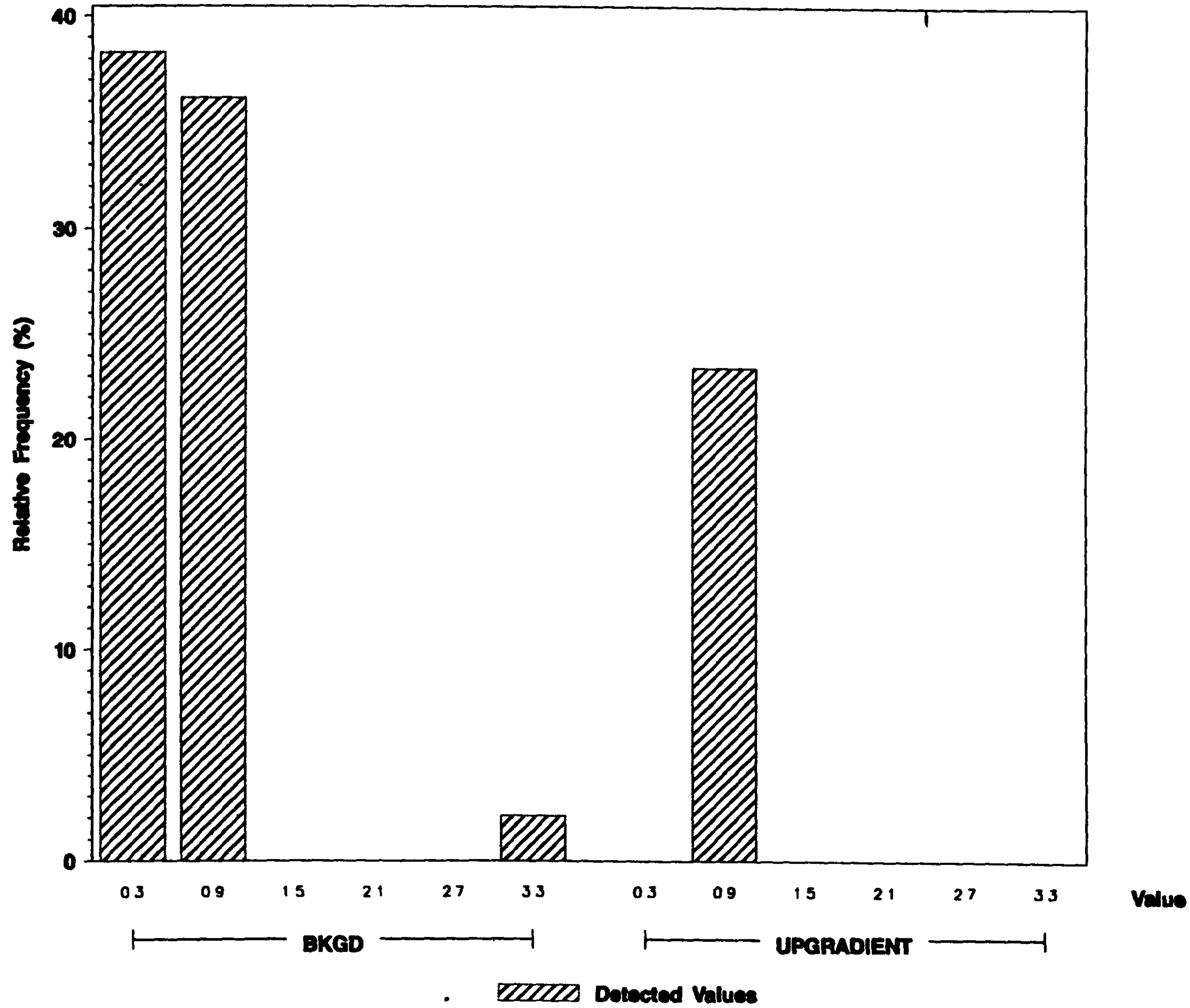
ANALYTE=TRITIUM



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

URANIUM-233,-234 (pCi/g) in Subsurface Geologic Materials

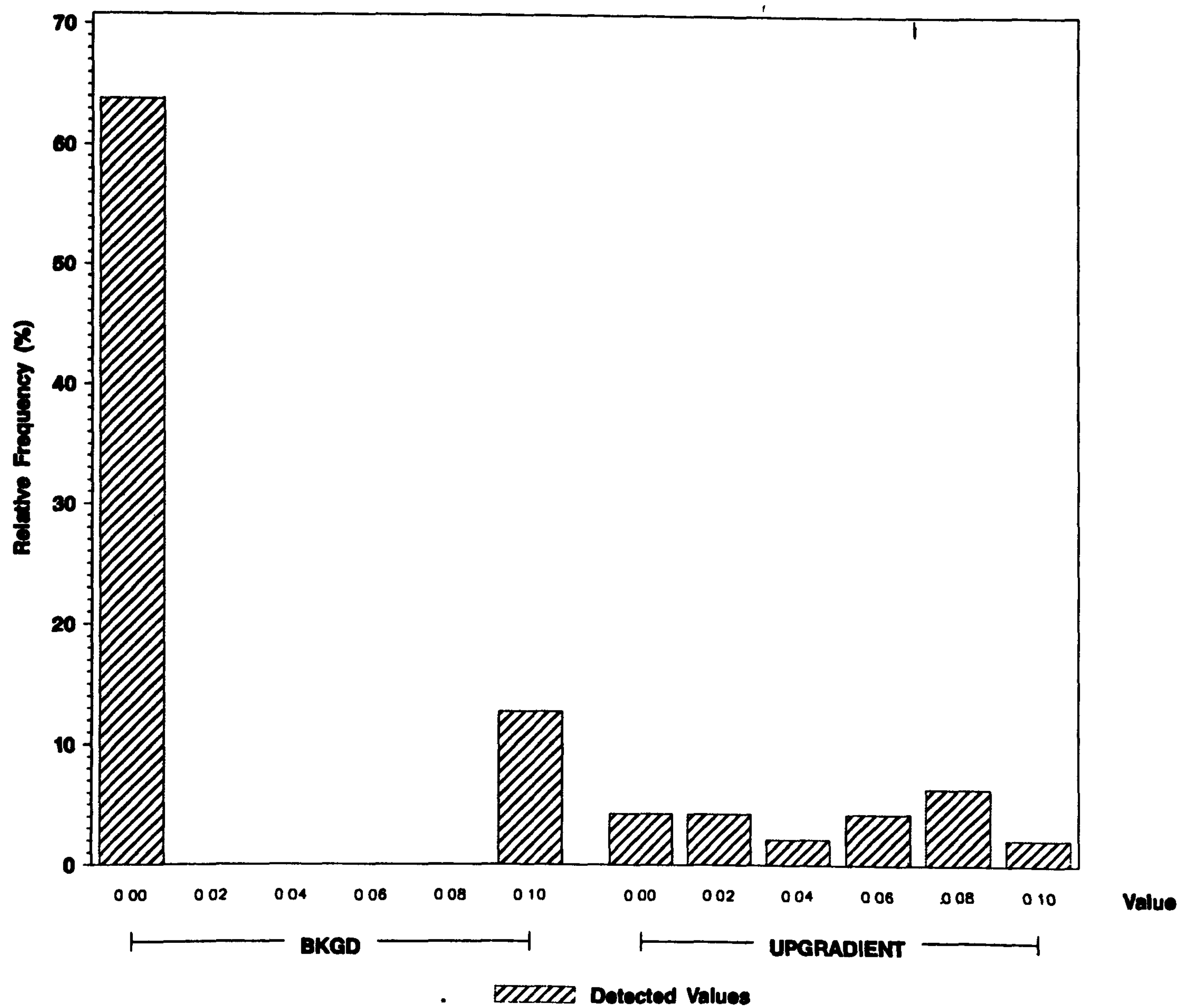
ANALYTE=URANIUM-233,-234



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

URANIUM - 235 (pCi/g) in Subsurface Geologic Materials

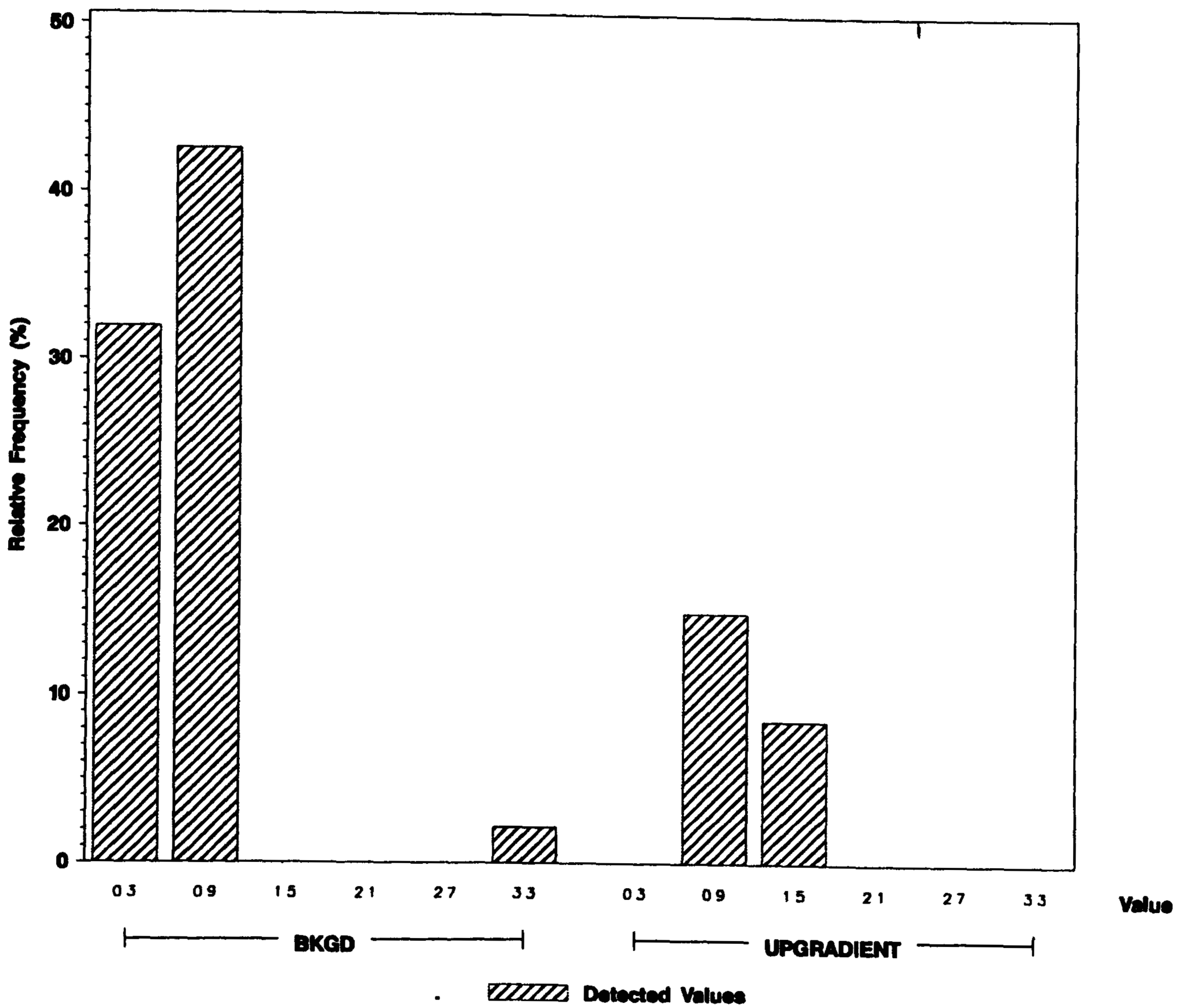
ANALYTE = URANIUM - 235



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

URANIUM − 238 (pCi/g) in Subsurface Geologic Materials

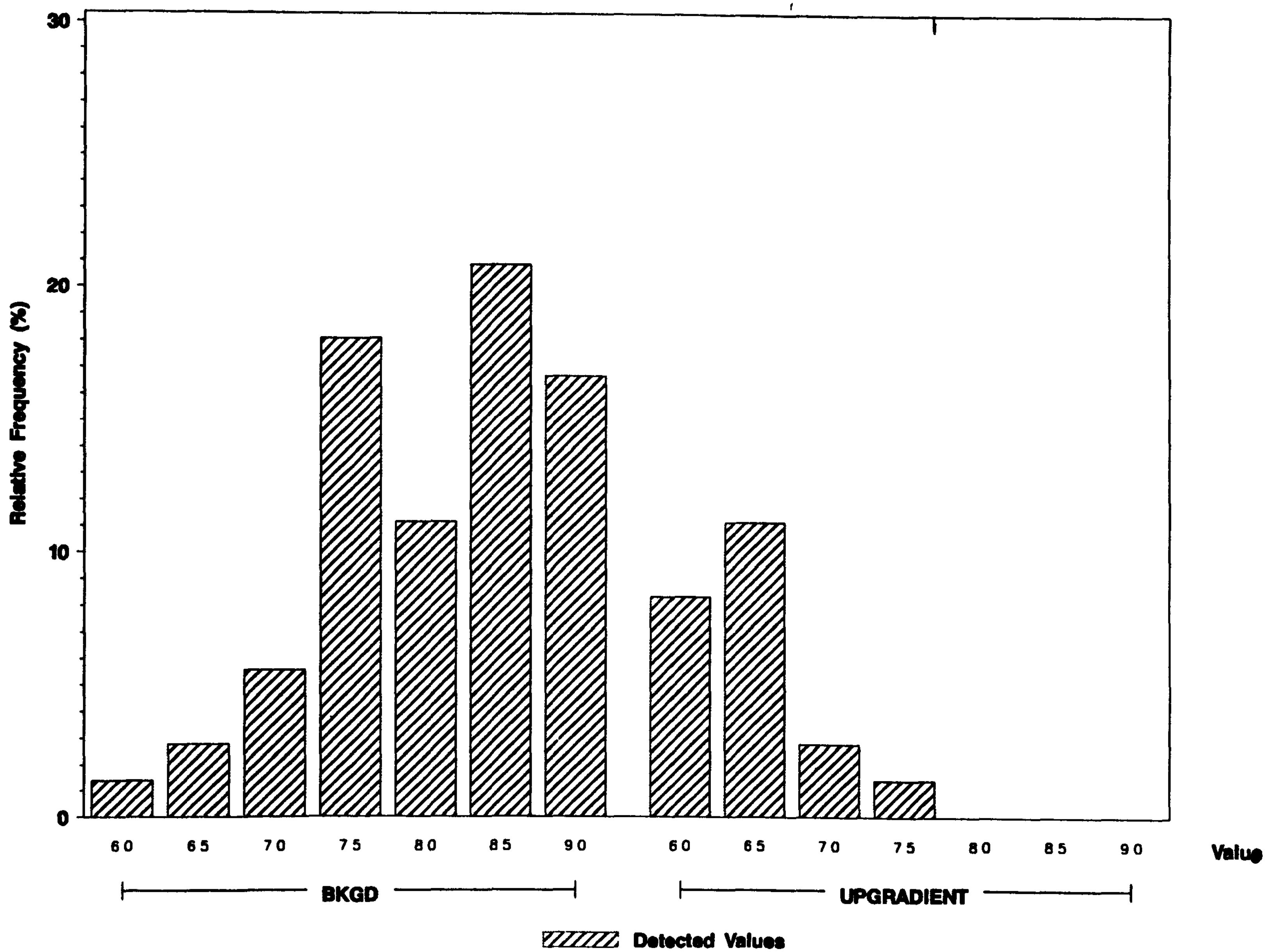
ANALYTE = URANIUM − 238



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

pH in Subsurface Geologic Materials

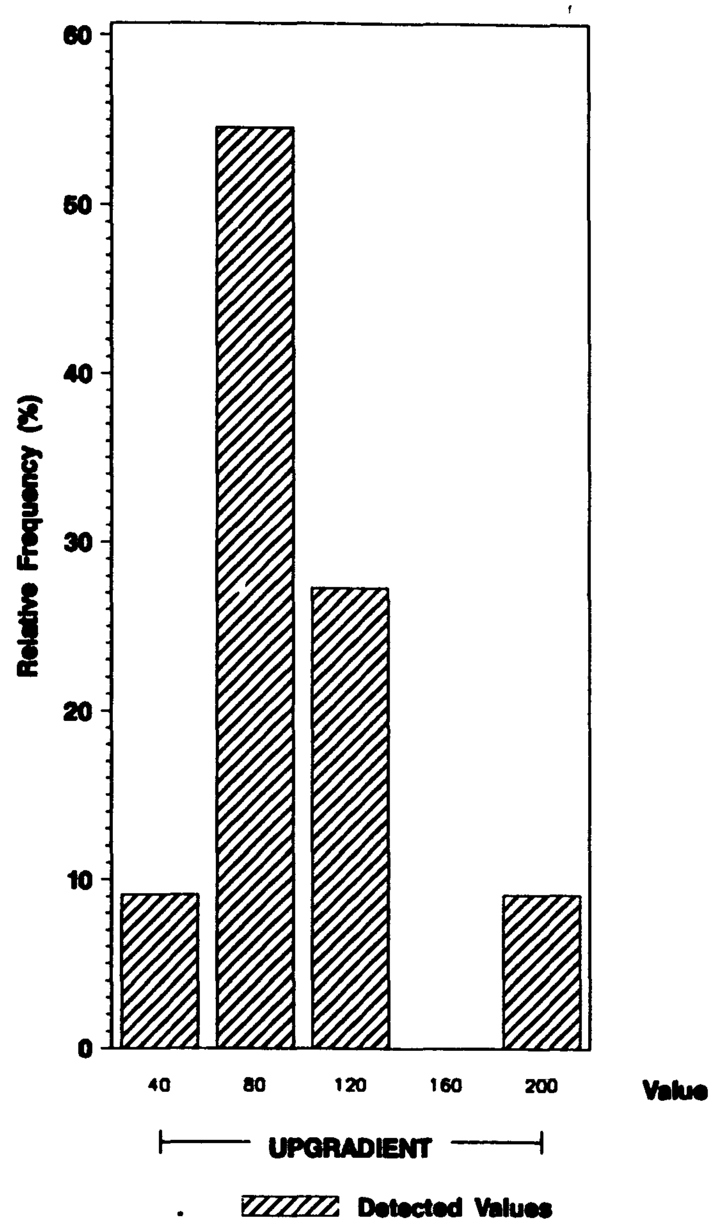
ANALYTE=pH



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

TOLUENE (ug/Kg) In Subsurface Geologic Materials

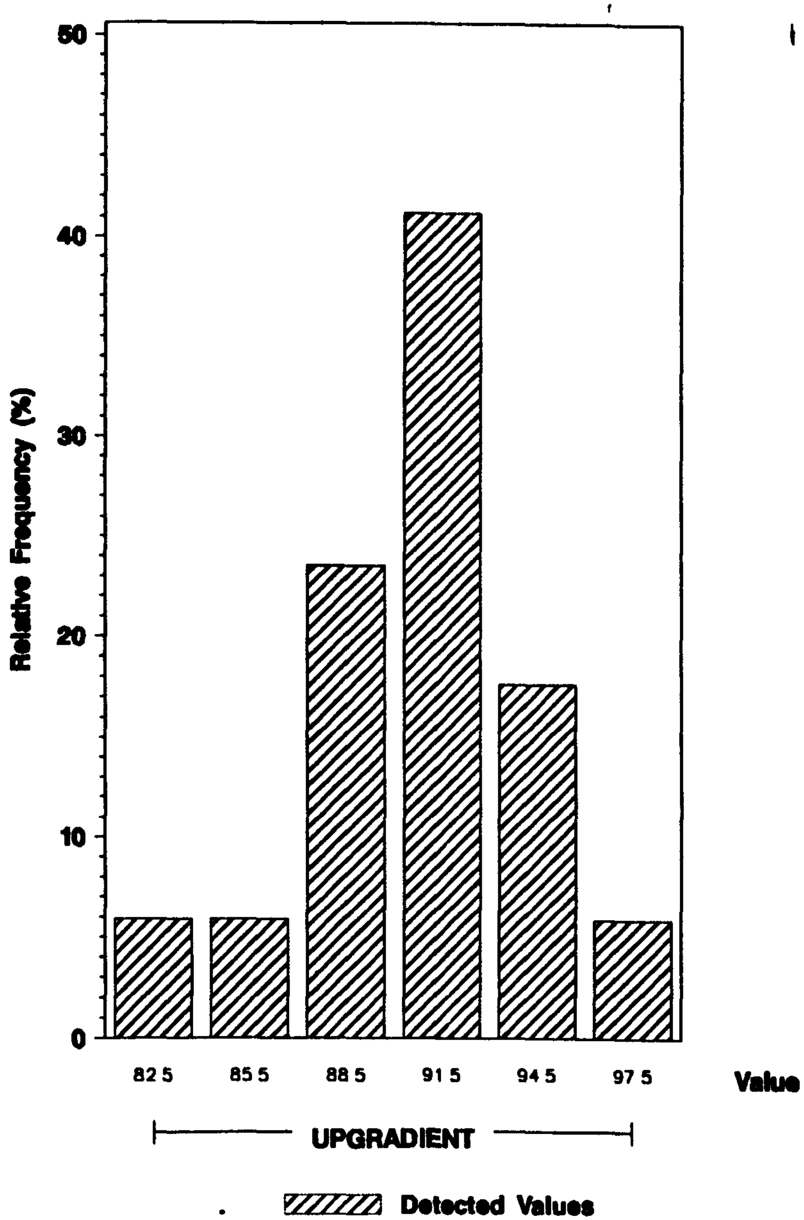
ANALYTE=TOLUENE



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

% SOLIDS (%) in Subsurface Geologic Materials

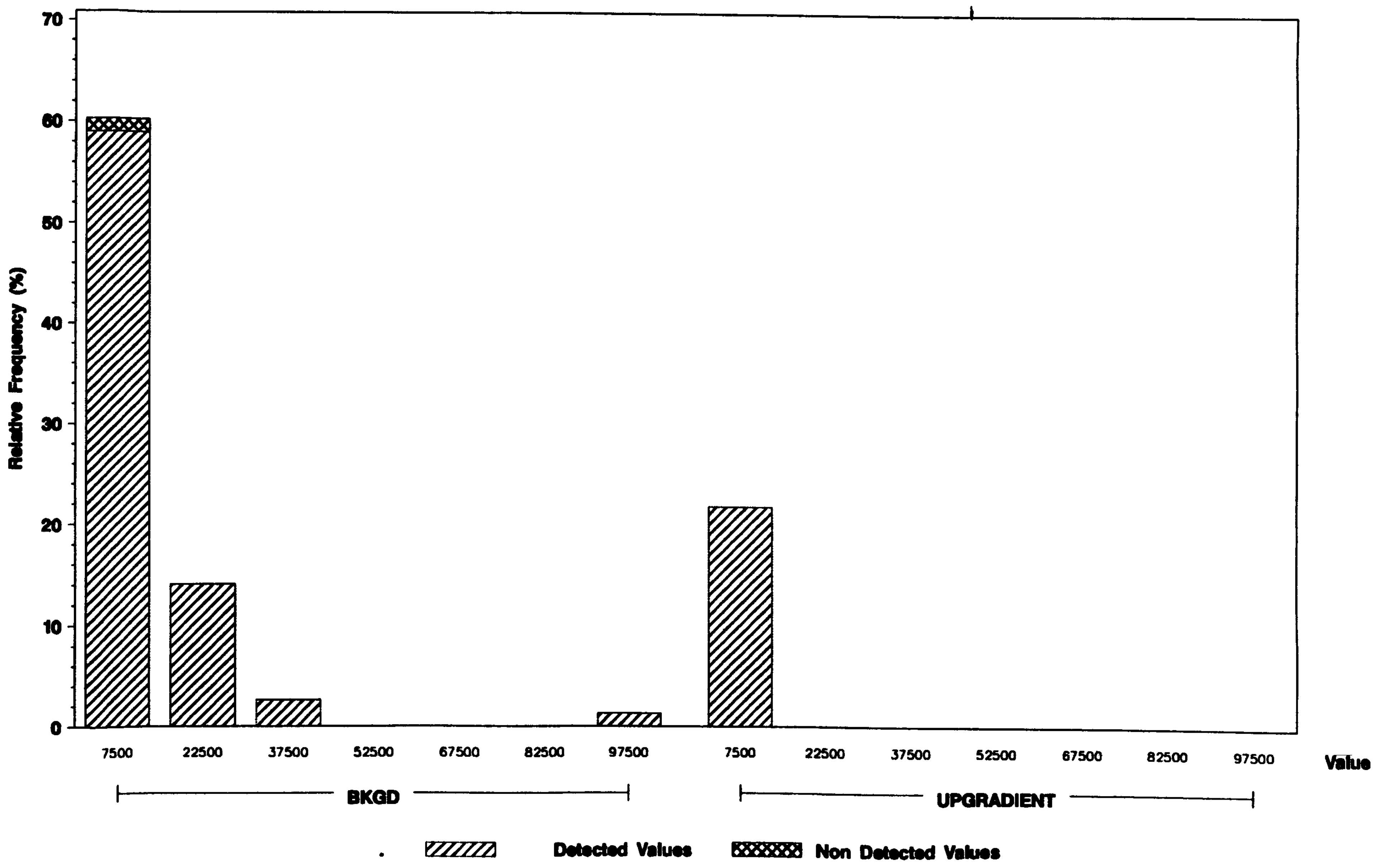
ANALYTE=% SOLIDS



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

ALUMINUM (mg/Kg) in Subsurface Geologic Materials

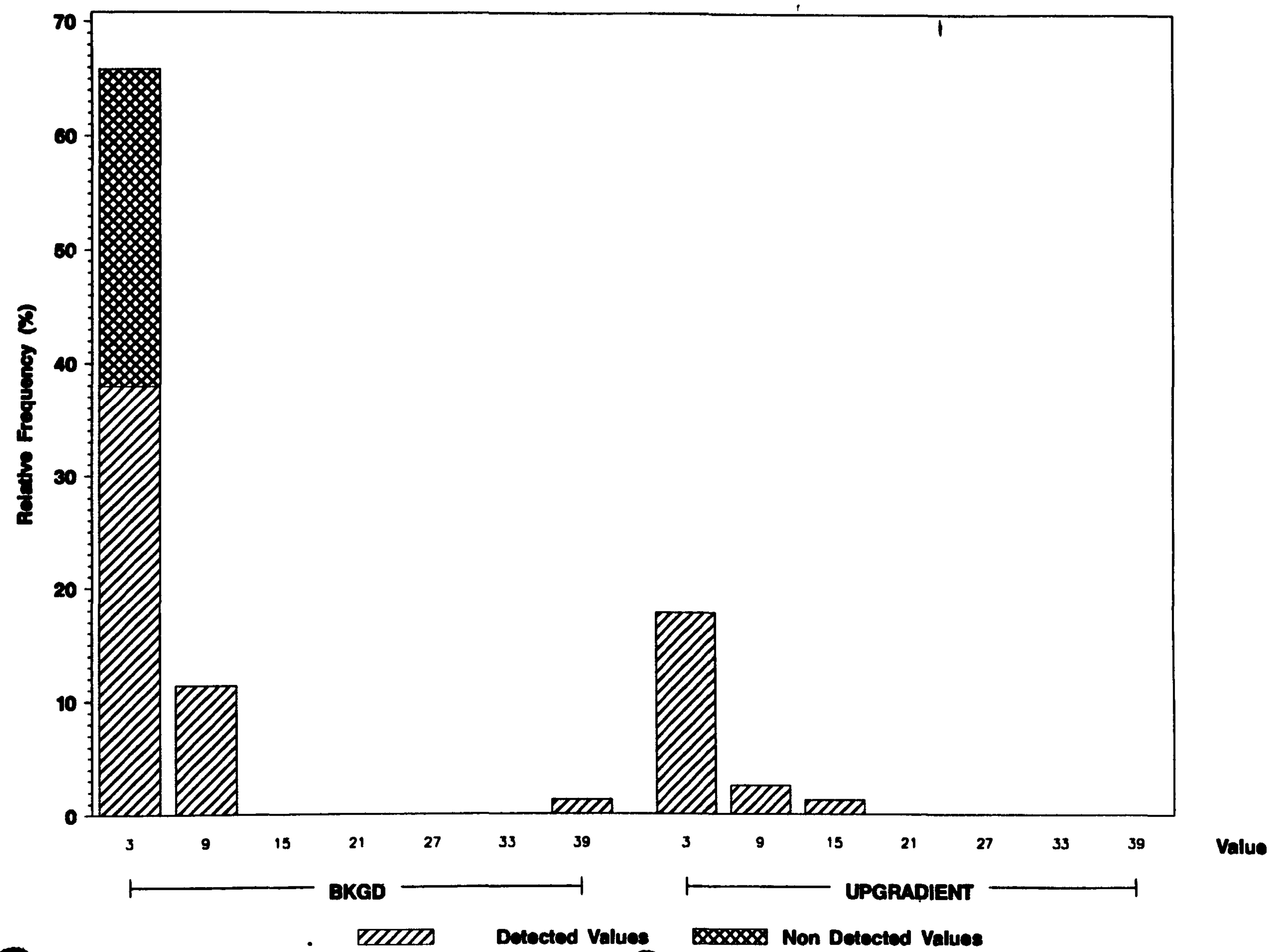
ANALYTE = ALUMINUM



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

ARSENIC (mg/Kg) in Subsurface Geologic Materials

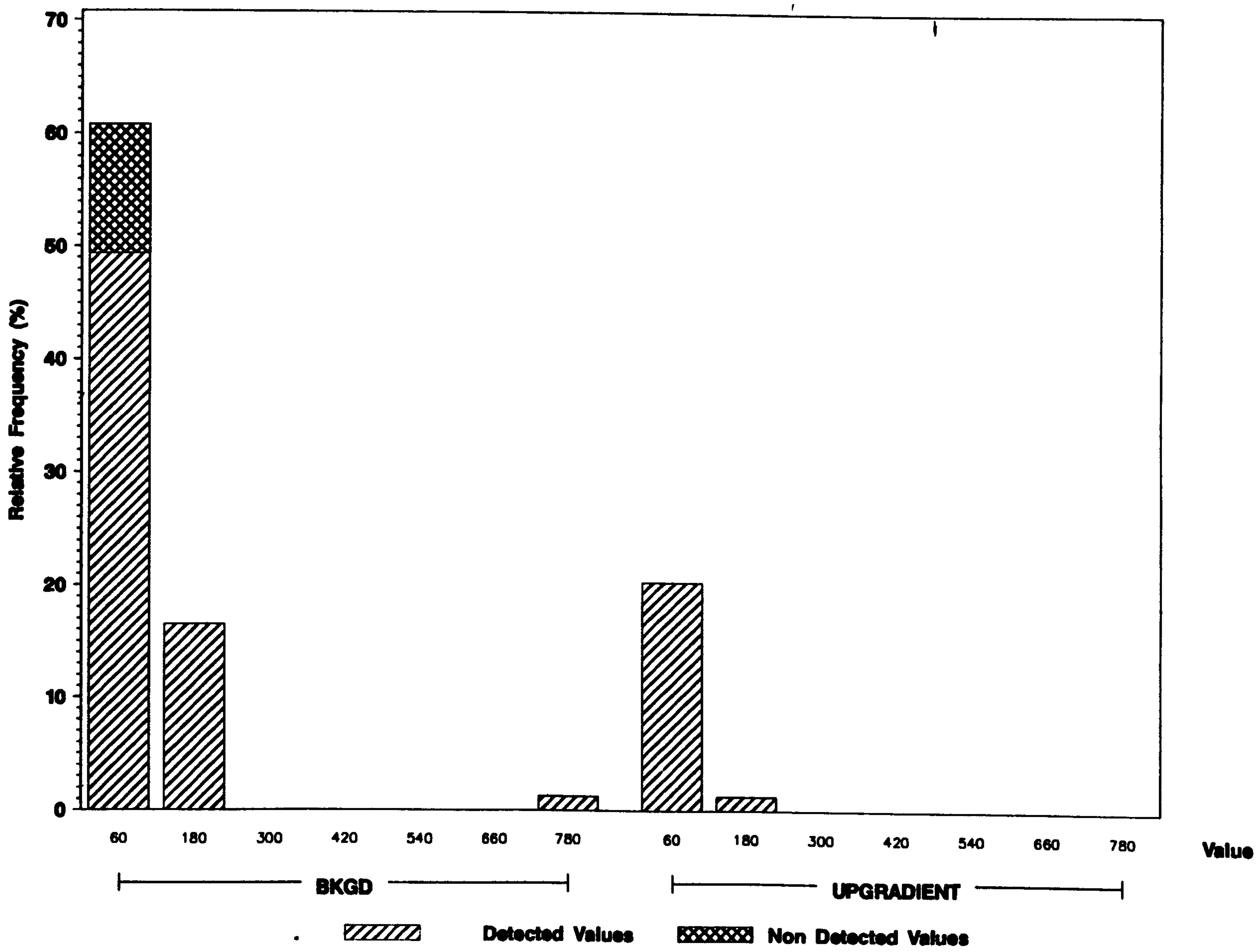
ANALYTE = ARSENIC



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

BARIUM (mg/Kg) in Subsurface Geologic Materials

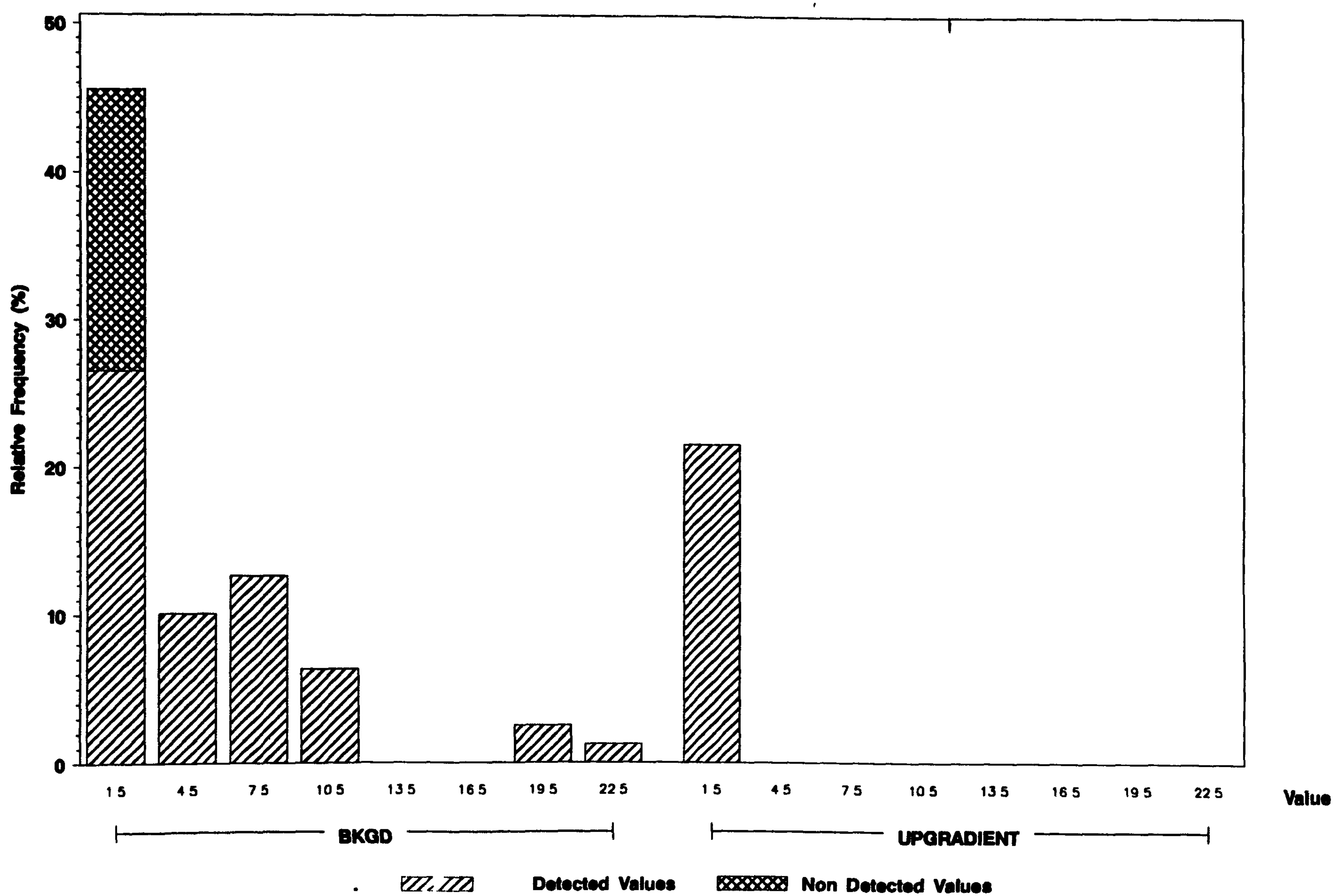
ANALYTE=BARIUM



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

BERYLLIUM (mg/Kg) in Subsurface Geologic Materials

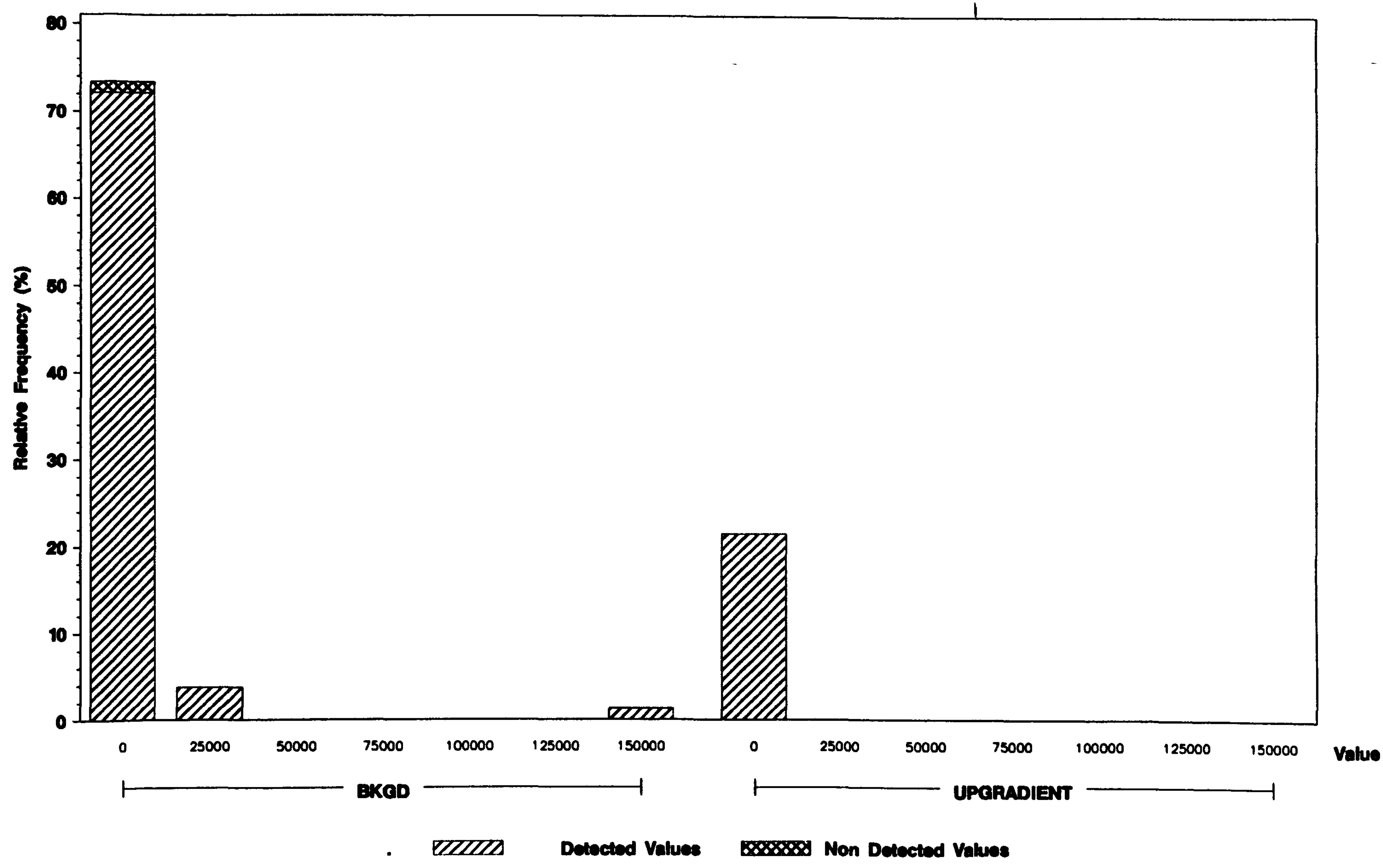
ANALYTE = BERYLLIUM



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

CALCIUM (mg/Kg) In Subsurface Geologic Materials

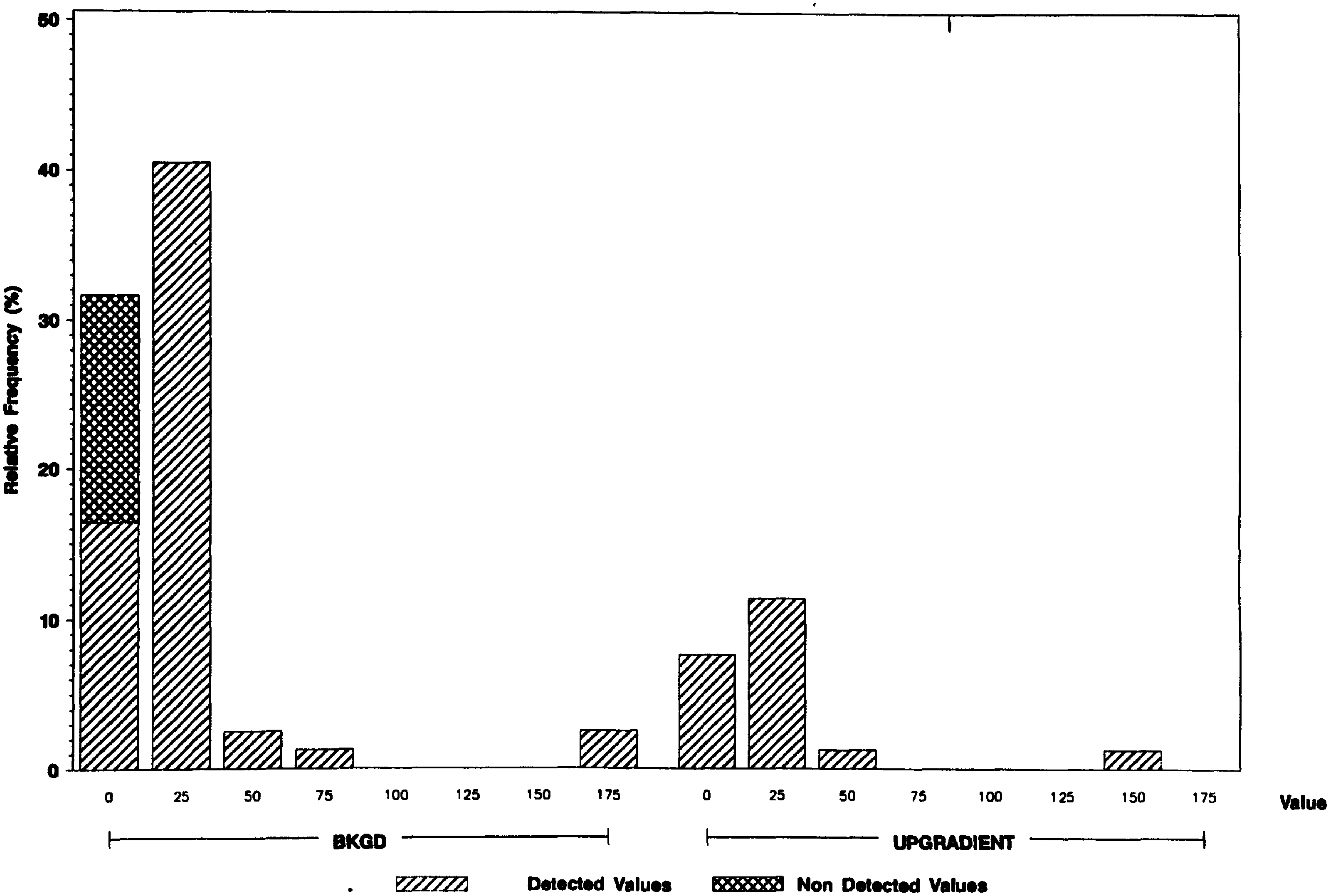
ANALYTE=CALCIUM



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

CHROMIUM (mg/Kg) in Subsurface Geologic Materials

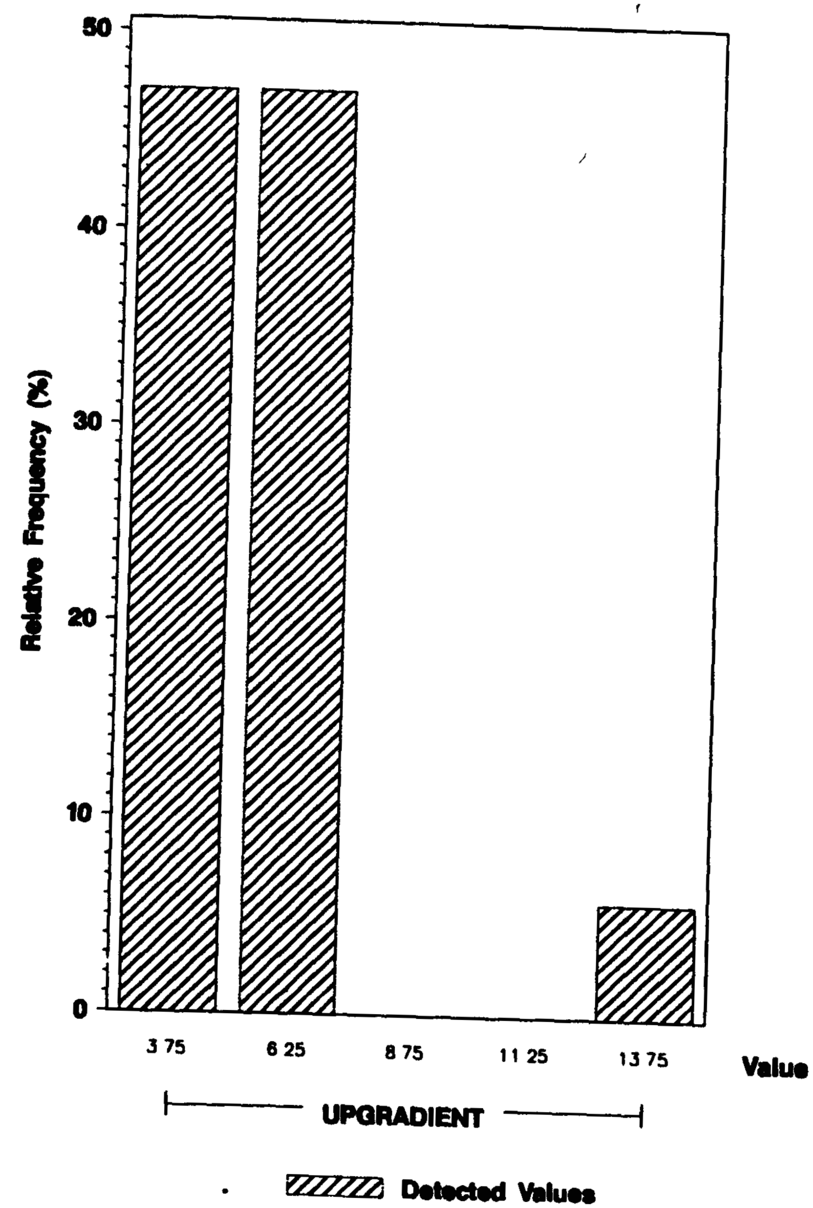
ANALYTE=CHROMIUM



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

COBALT (mg/Kg) In Subsurface Geologic Materials

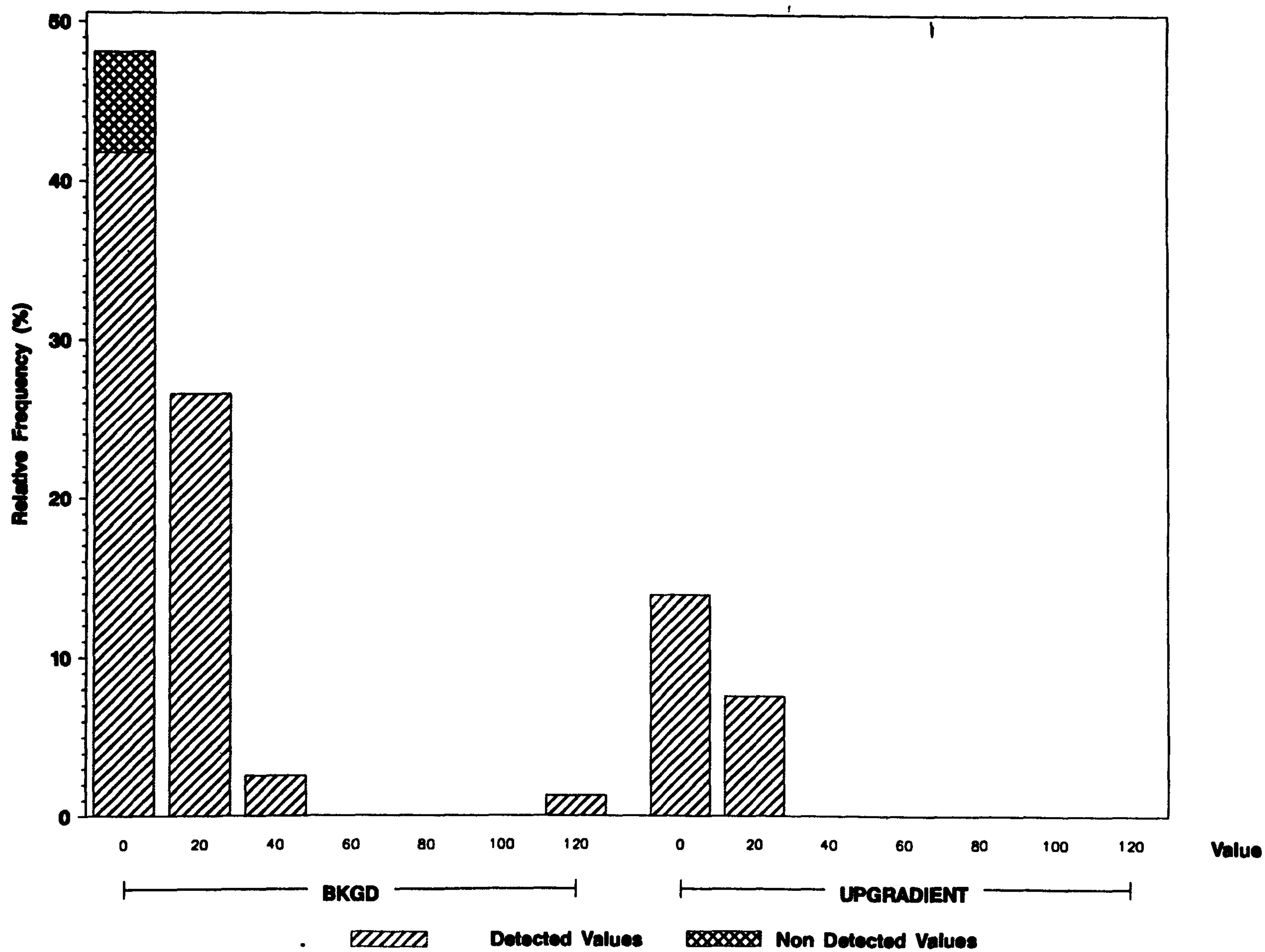
ANALYTE=COBALT



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

COPPER (mg/Kg) In Subsurface Geologic Materials

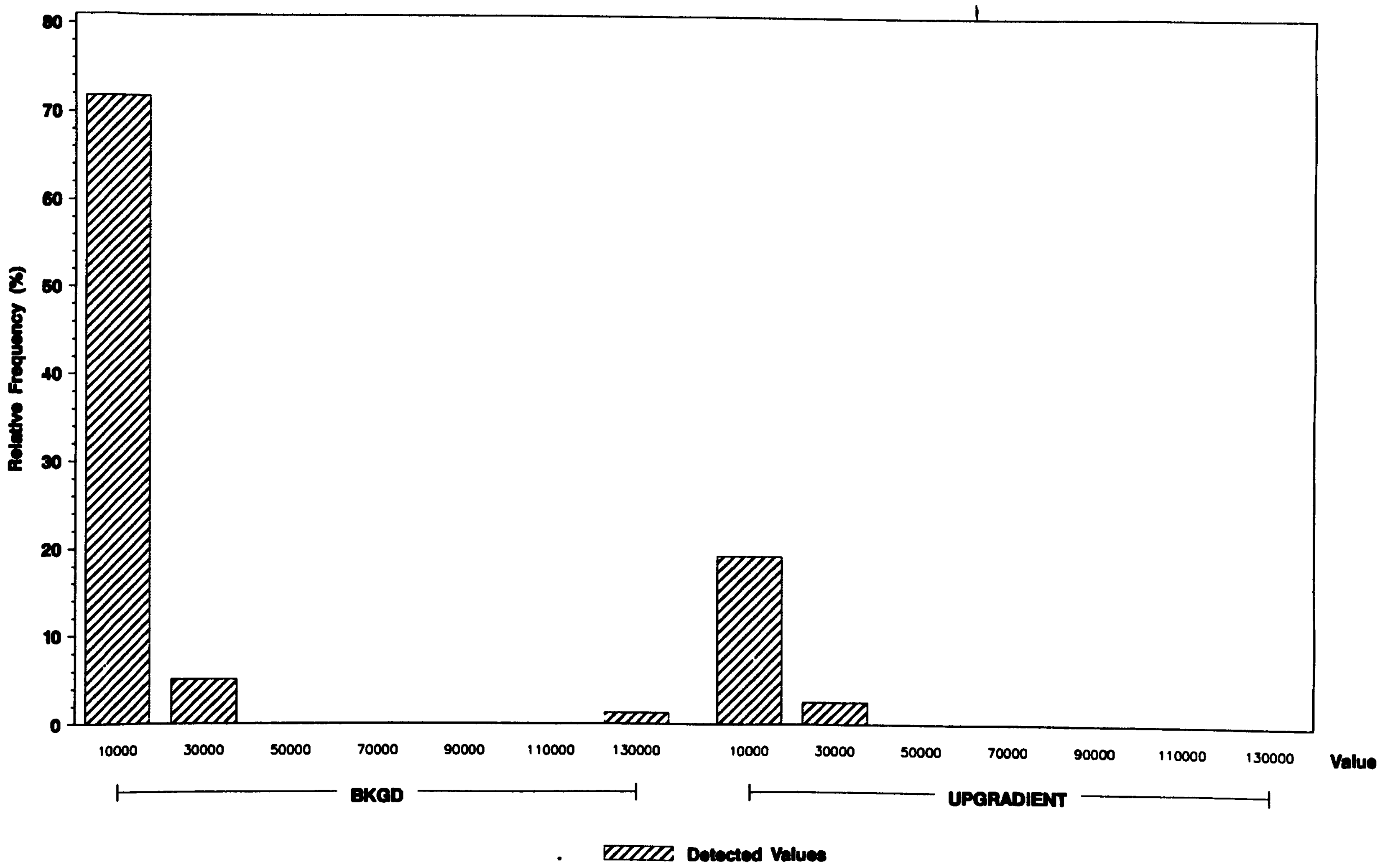
ANALYTE=COPPER



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

IRON (mg/Kg) in Subsurface Geologic Materials

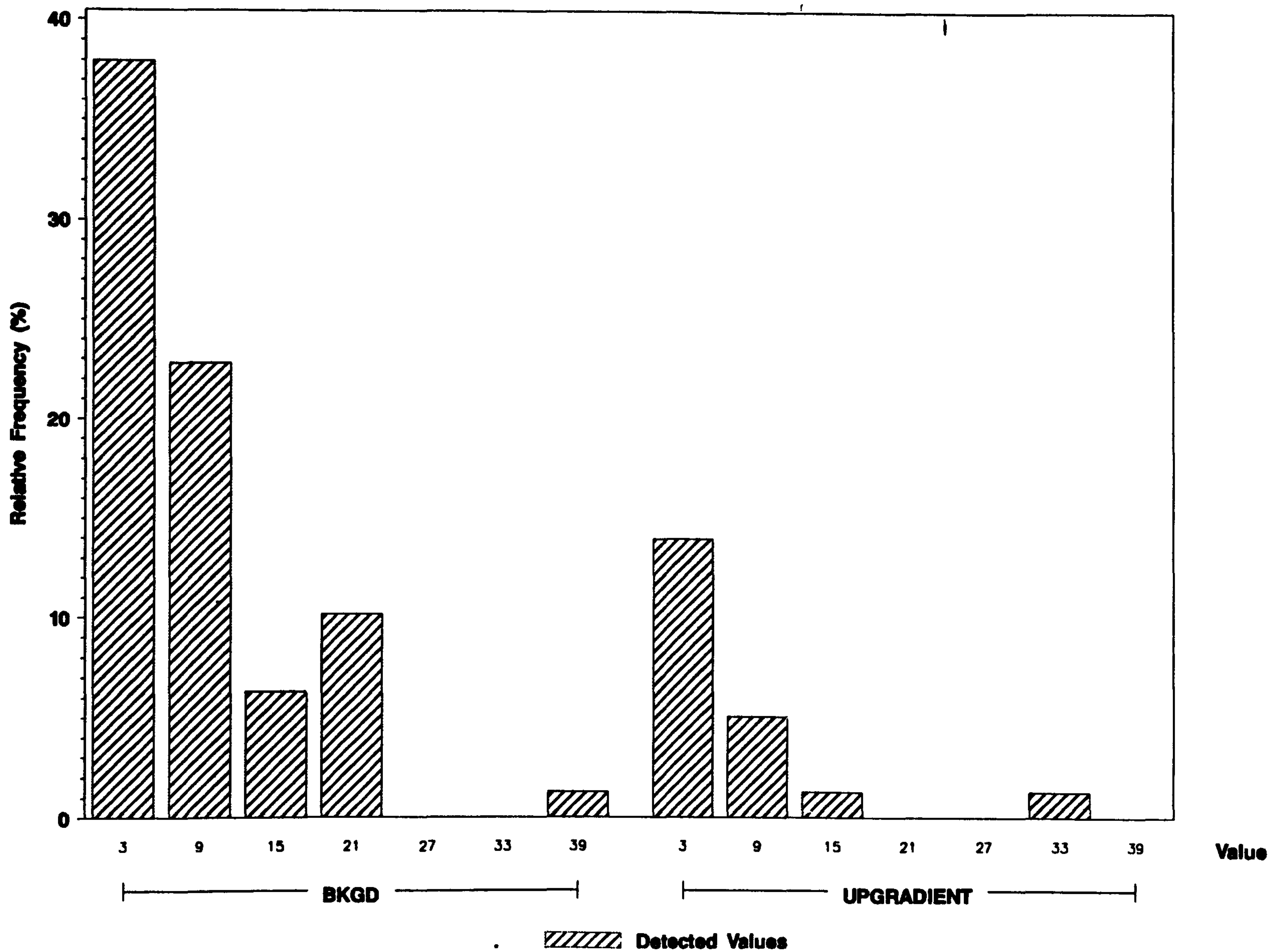
ANALYTE=IRON



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

LEAD (mg/Kg) in Subsurface Geologic Materials

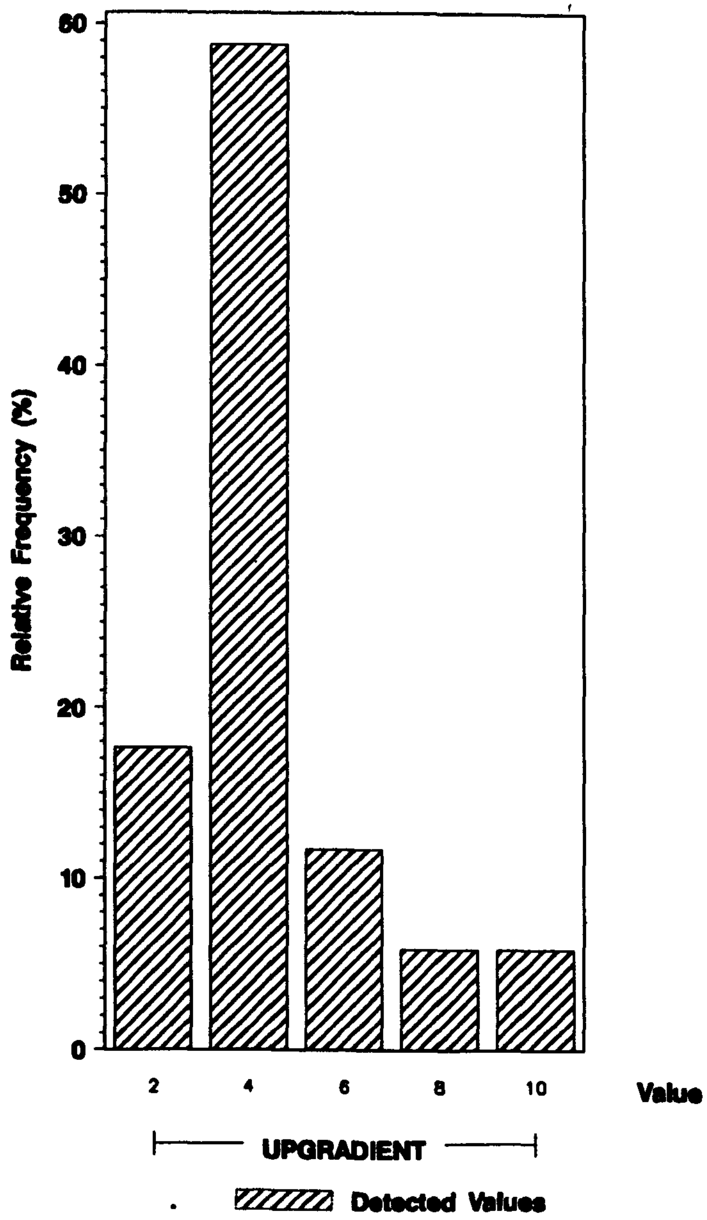
ANALYTE=LEAD



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

LITHIUM (mg/Kg) In Subsurface Geologic Materials

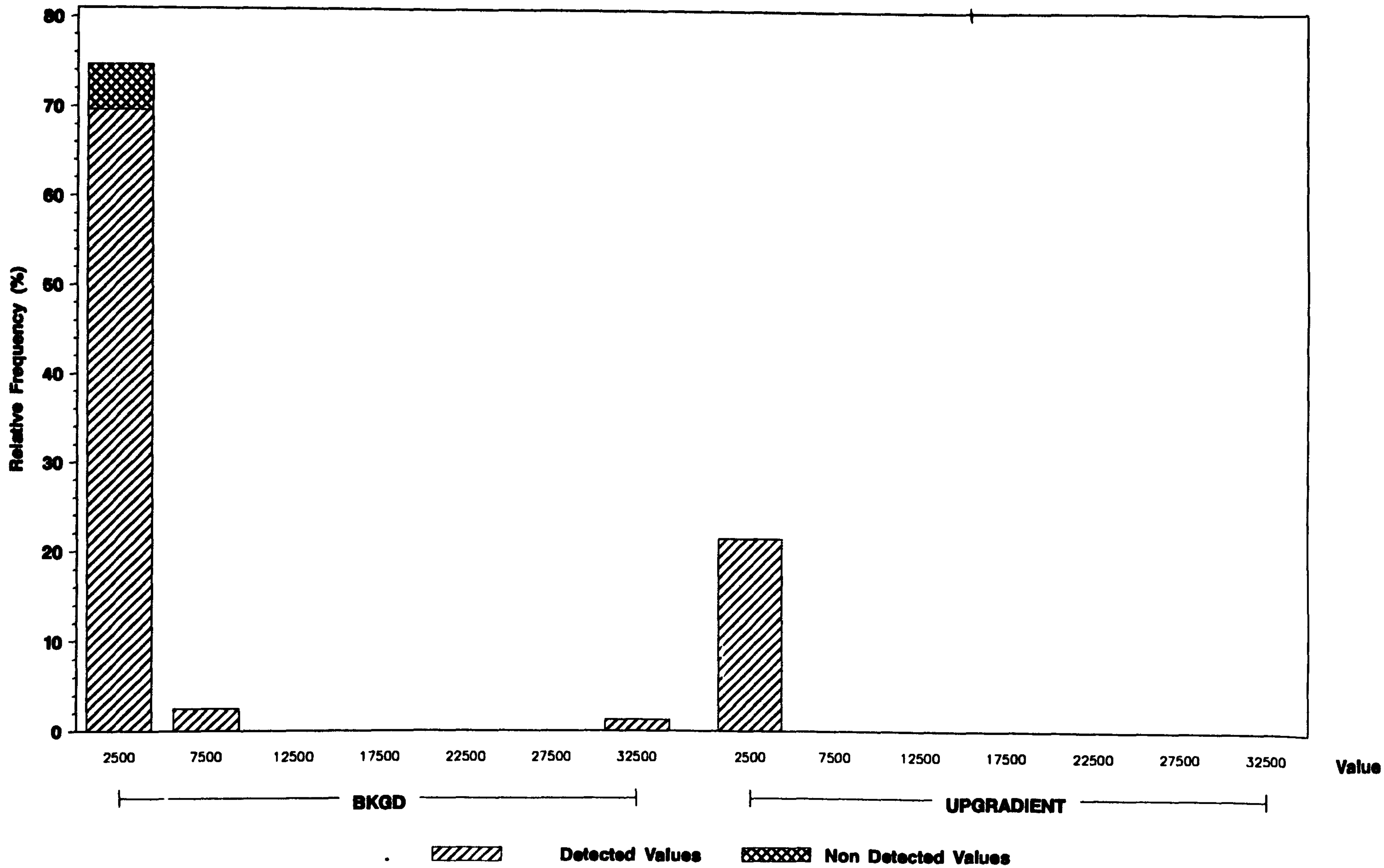
ANALYTE=LITHIUM



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

MAGNESIUM (mg/Kg) in Subsurface Geologic Materials

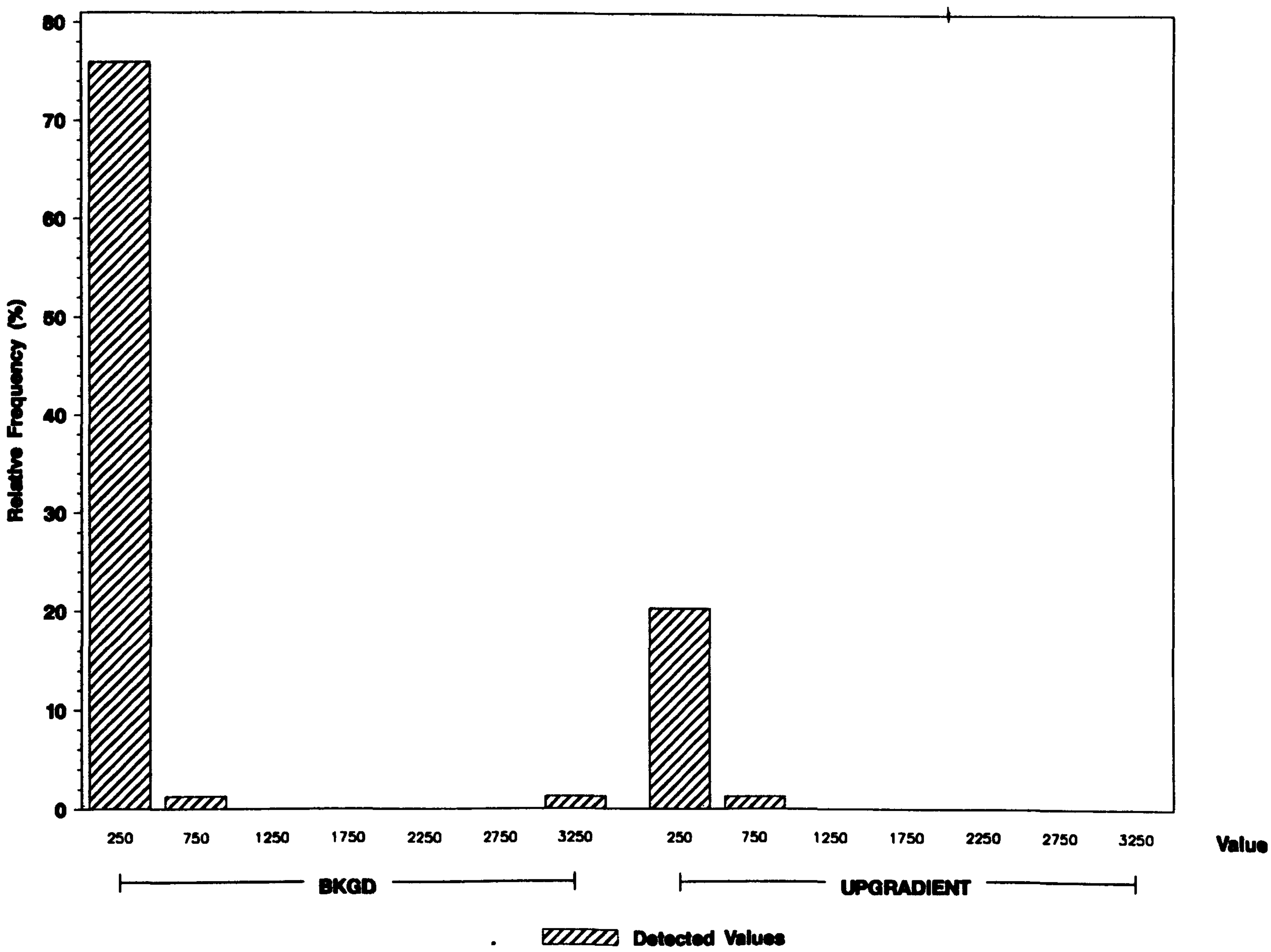
ANALYTE=MAGNESIUM



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

MANGANESE (mg/Kg) in Subsurface Geologic Materials

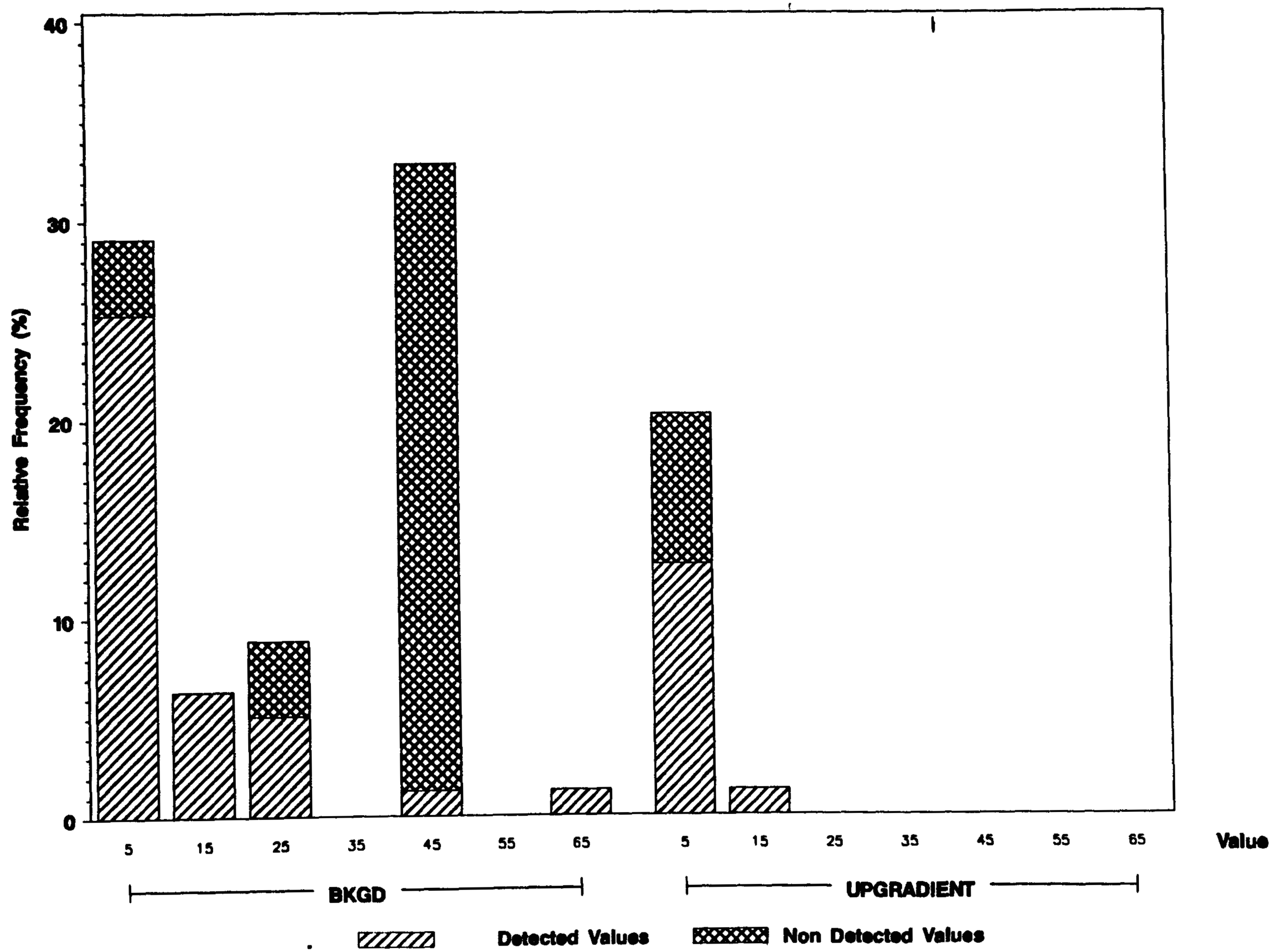
ANALYTE=MANGANESE



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

MOLYBDENUM (mg/Kg) In Subsurface Geologic Materials

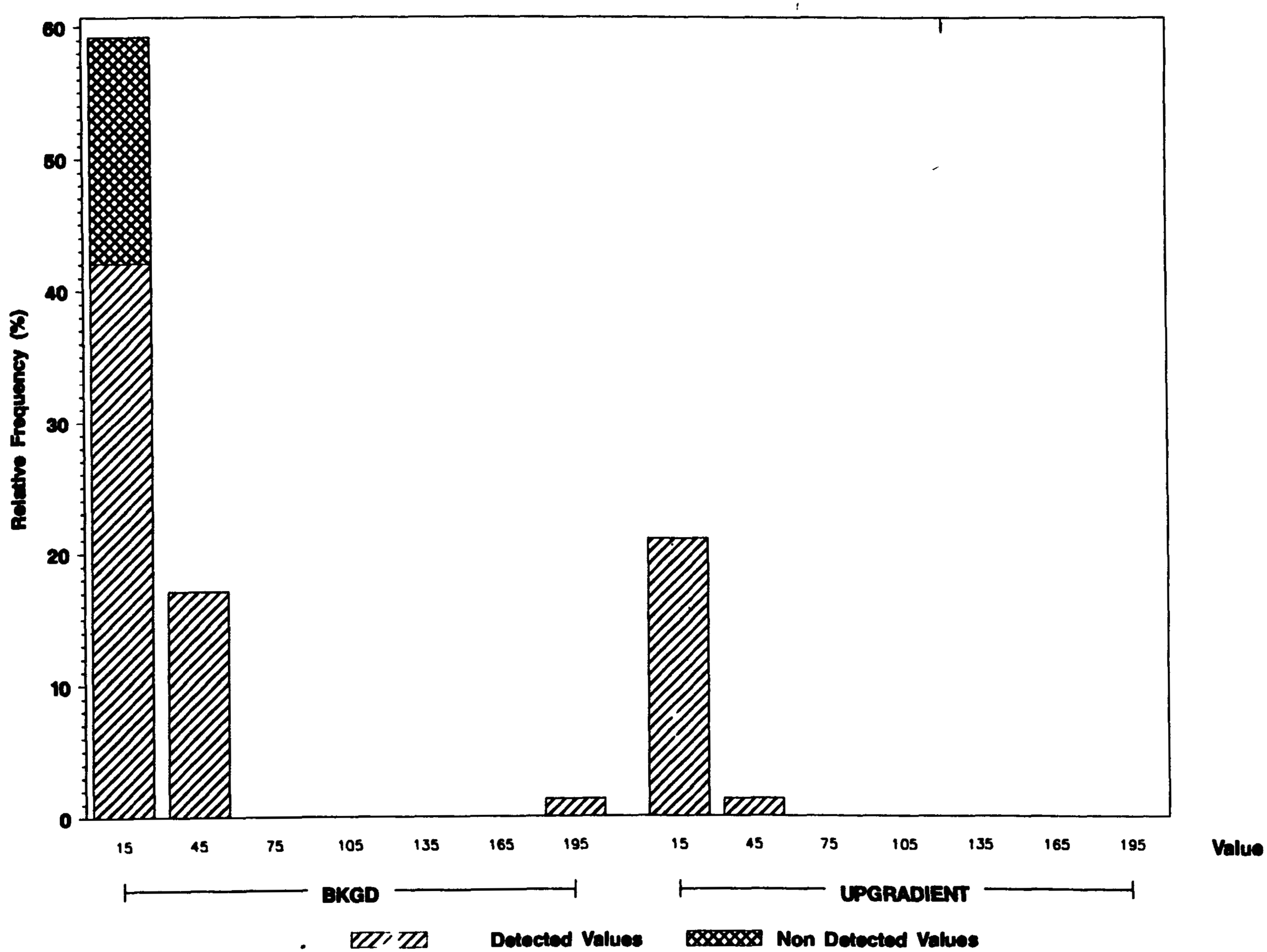
ANALYTE=MOLYBDENUM



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

NICKEL (mg/Kg) In Subsurface Geologic Materials

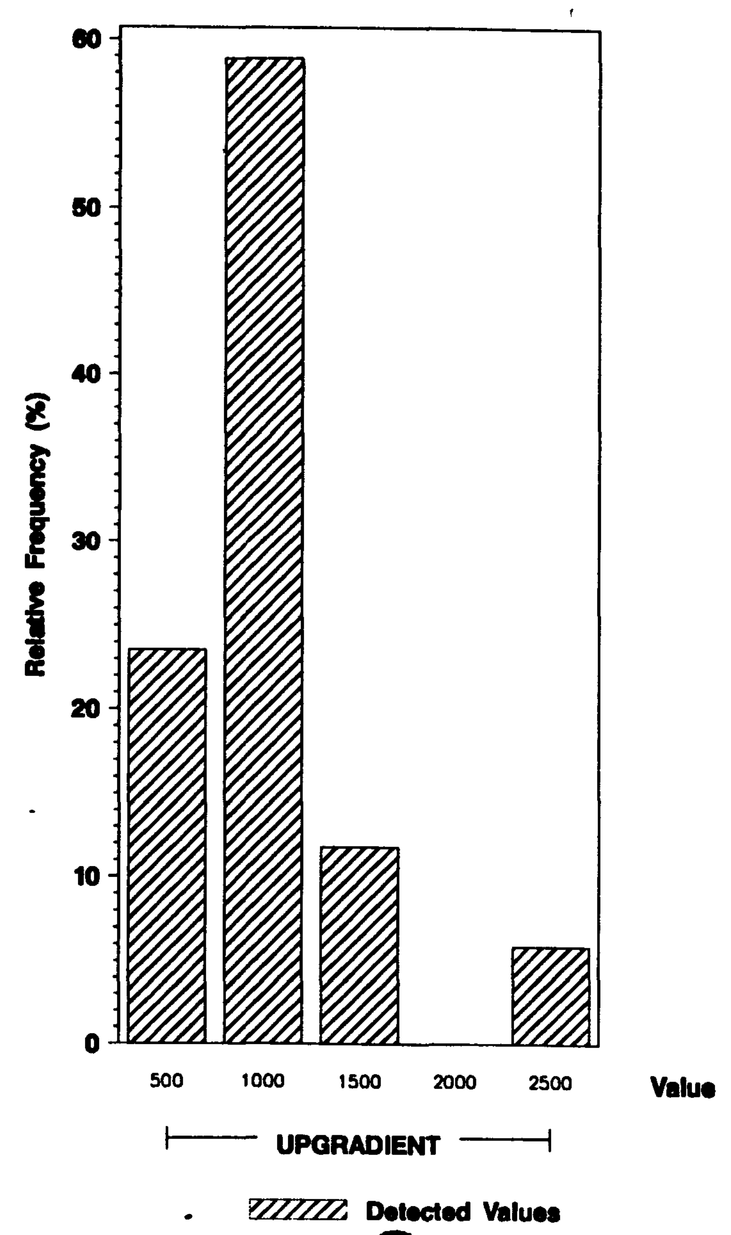
ANALYTE=NICKEL



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

POTASSIUM (mg/Kg) in Subsurface Geologic Materials

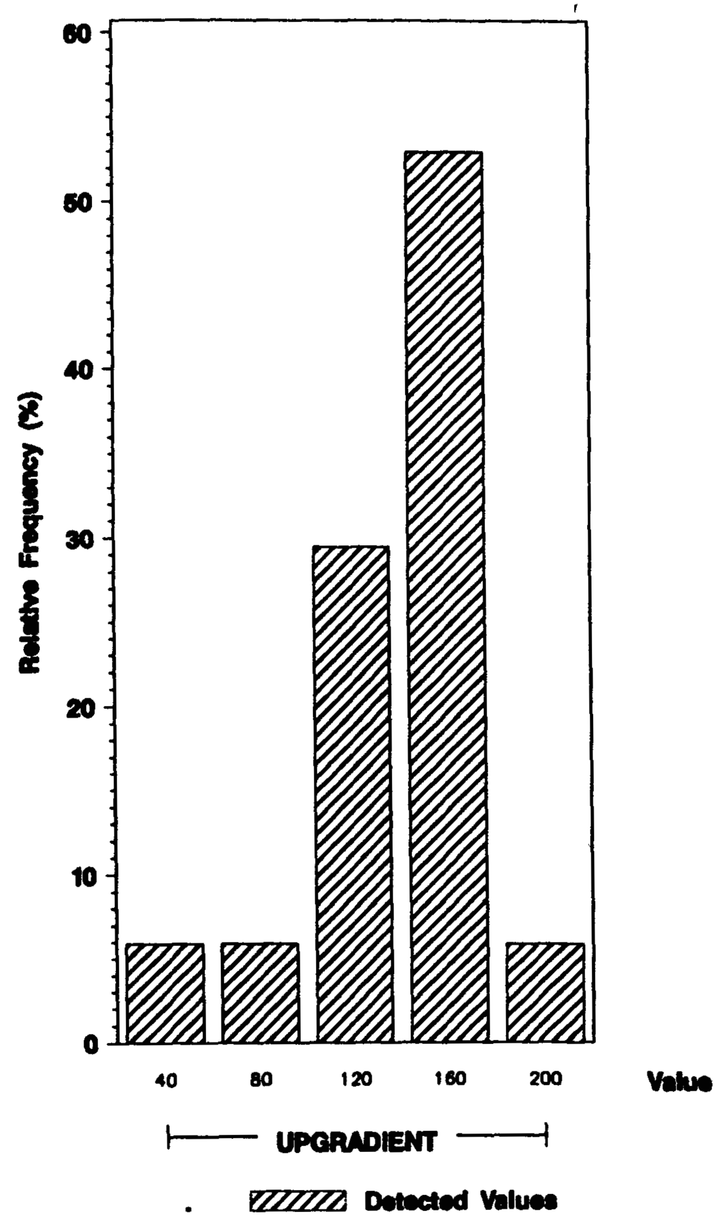
ANALYTE=POTASSIUM



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

SILICON (mg/Kg) in Subsurface Geologic Materials

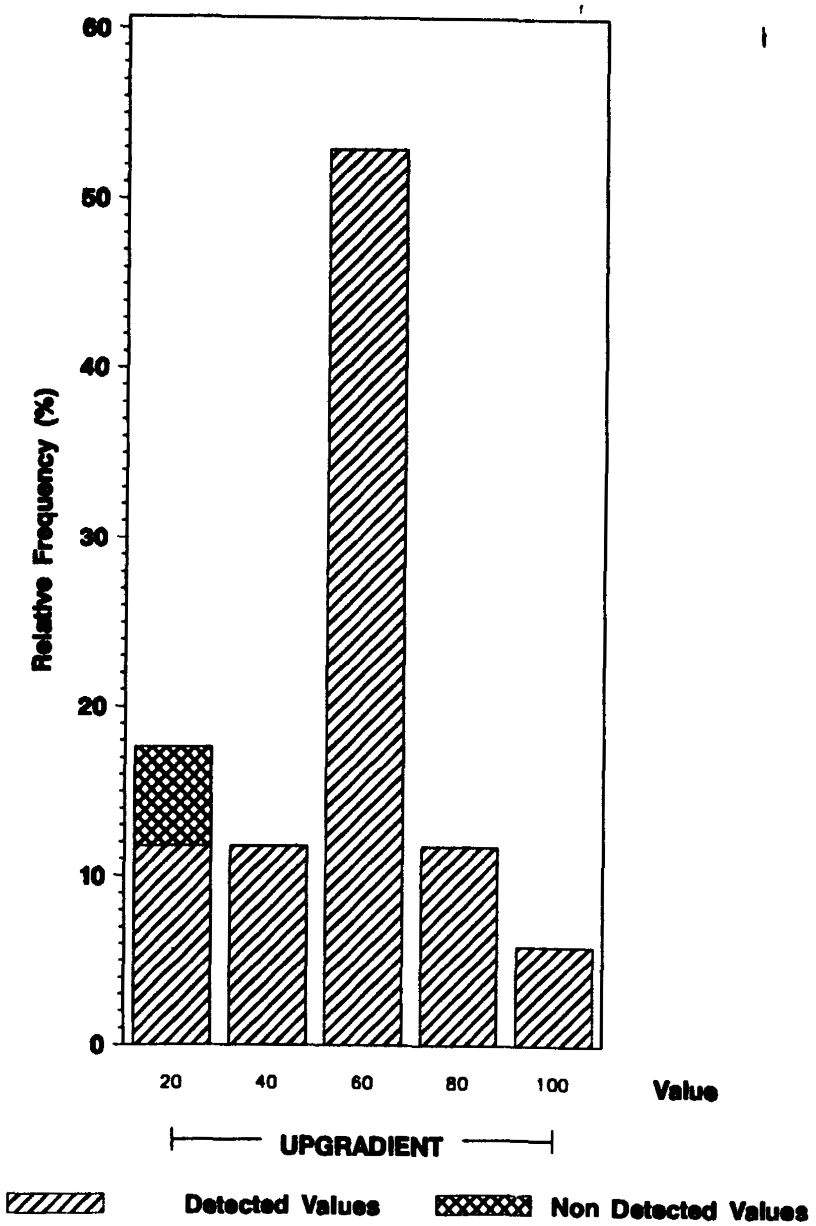
ANALYTE=SILICON



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

SODIUM (mg/Kg) In Subsurface Geologic Materials

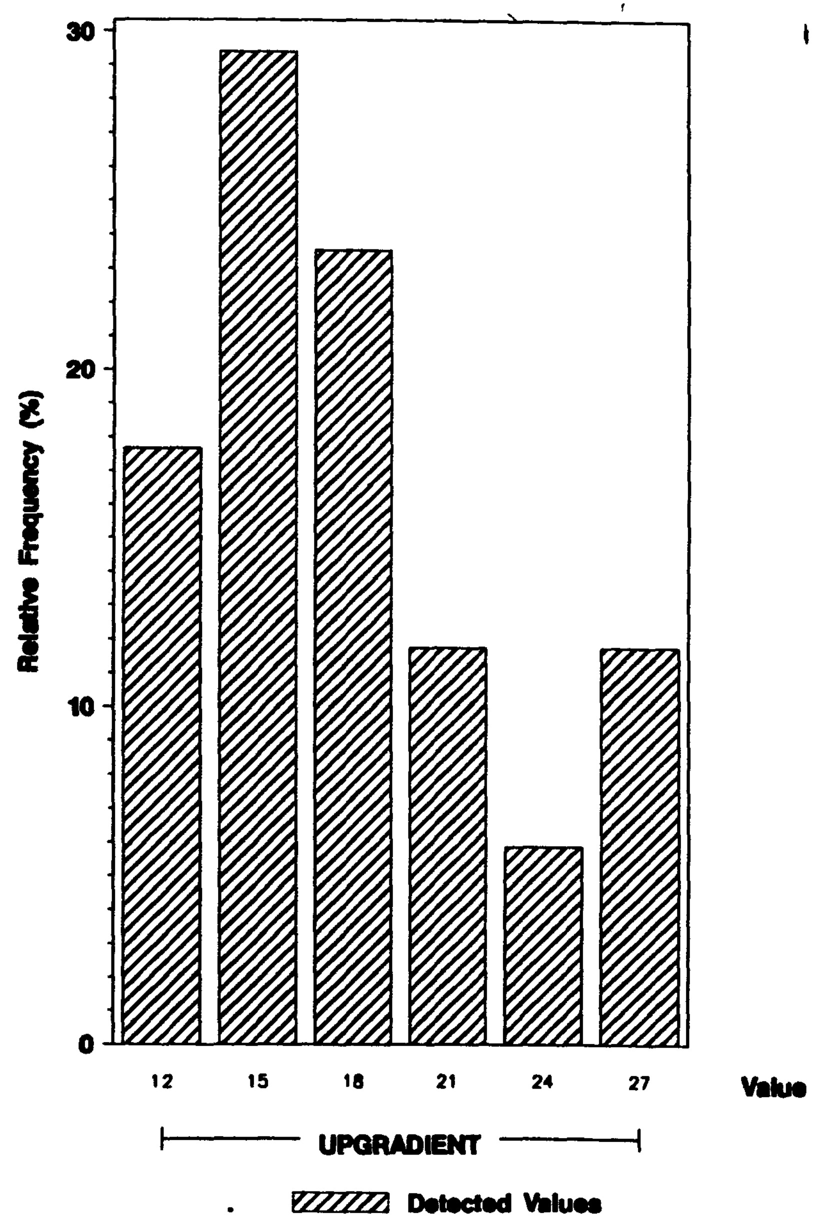
ANALYTE=SODIUM



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

STRONTIUM (mg/Kg) in Subsurface Geologic Materials

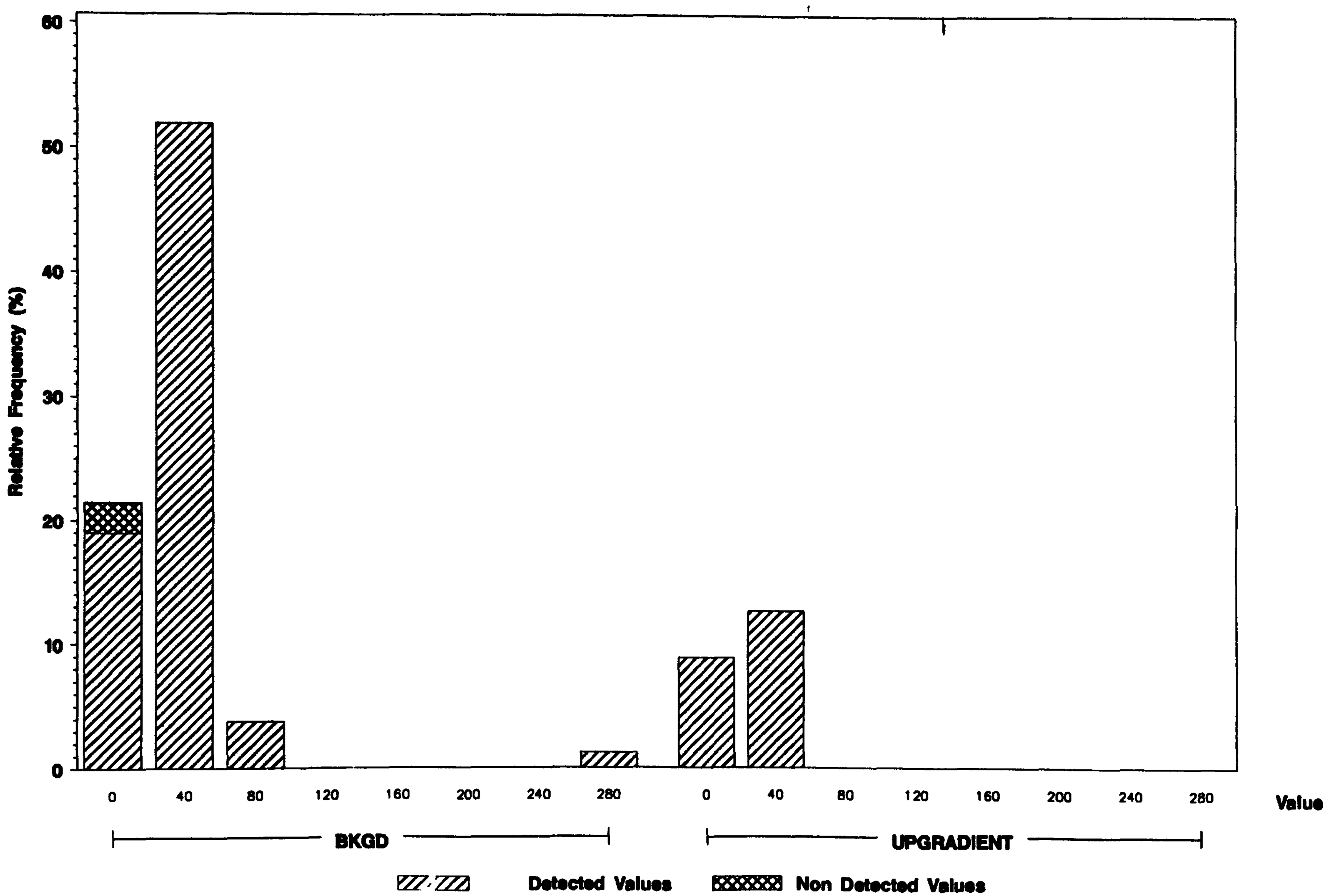
ANALYTE=STRONTIUM



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

VANADIUM (mg/Kg) in Subsurface Geologic Materials

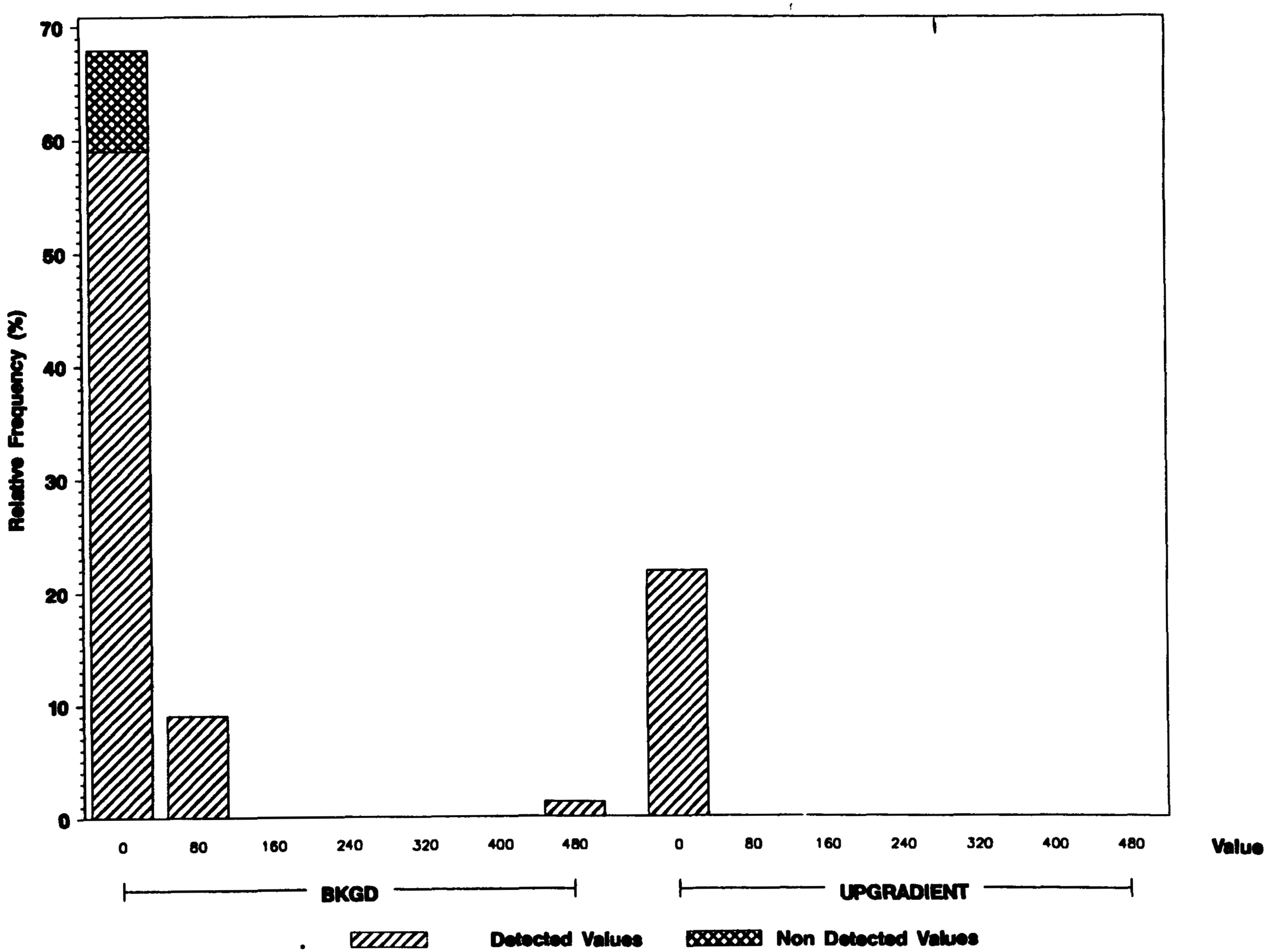
ANALYTE=VANADIUM



Background Qrf vs Upgradient OU7 Qrf Frequency Histogram

ZINC (mg/Kg) In Subsurface Geologic Materials

ANALYTE=ZINC



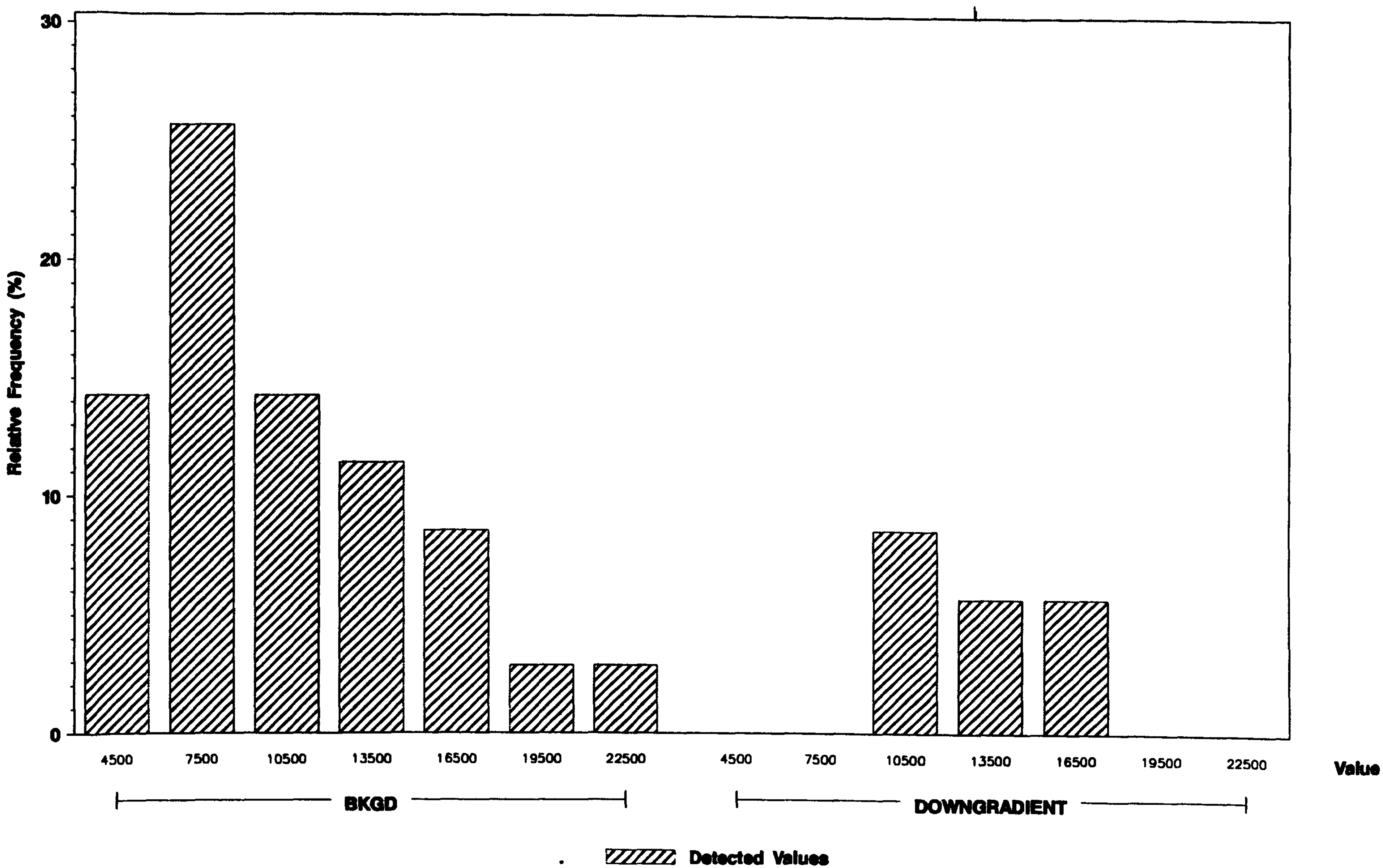
Subsurface Geologic Materials

Background vs. OU 7 Downgradient Qc

Background Qc vs Downgradient OU7 Qc Frequency Histogram

ALUMINUM (mg/Kg) in Subsurface Geologic Materials

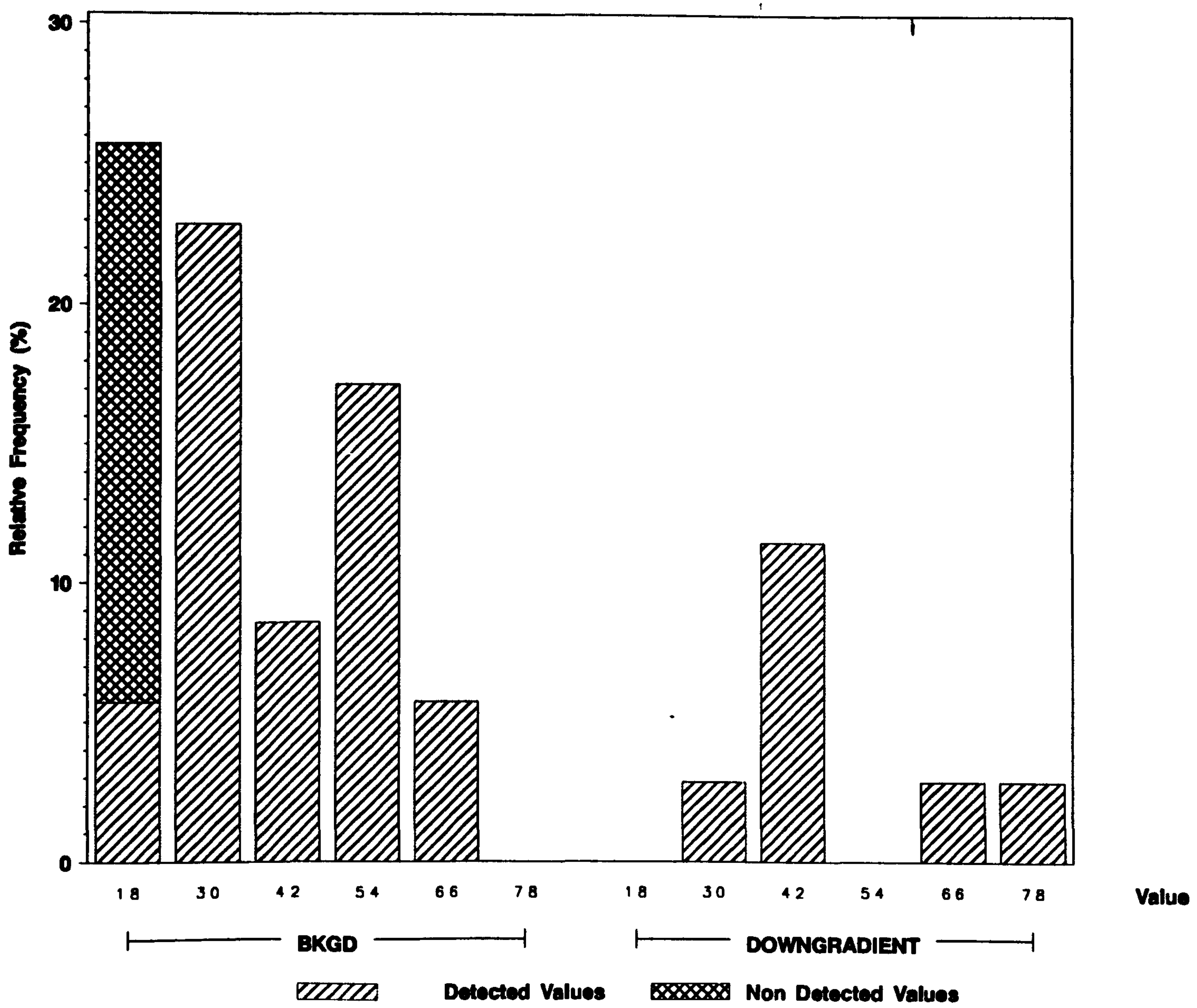
ANALYTE = ALUMINUM



Background Qc vs Downgradient OU7 Qc Frequency Histogram

ARSENIC (mg/Kg) in Subsurface Geologic Materials

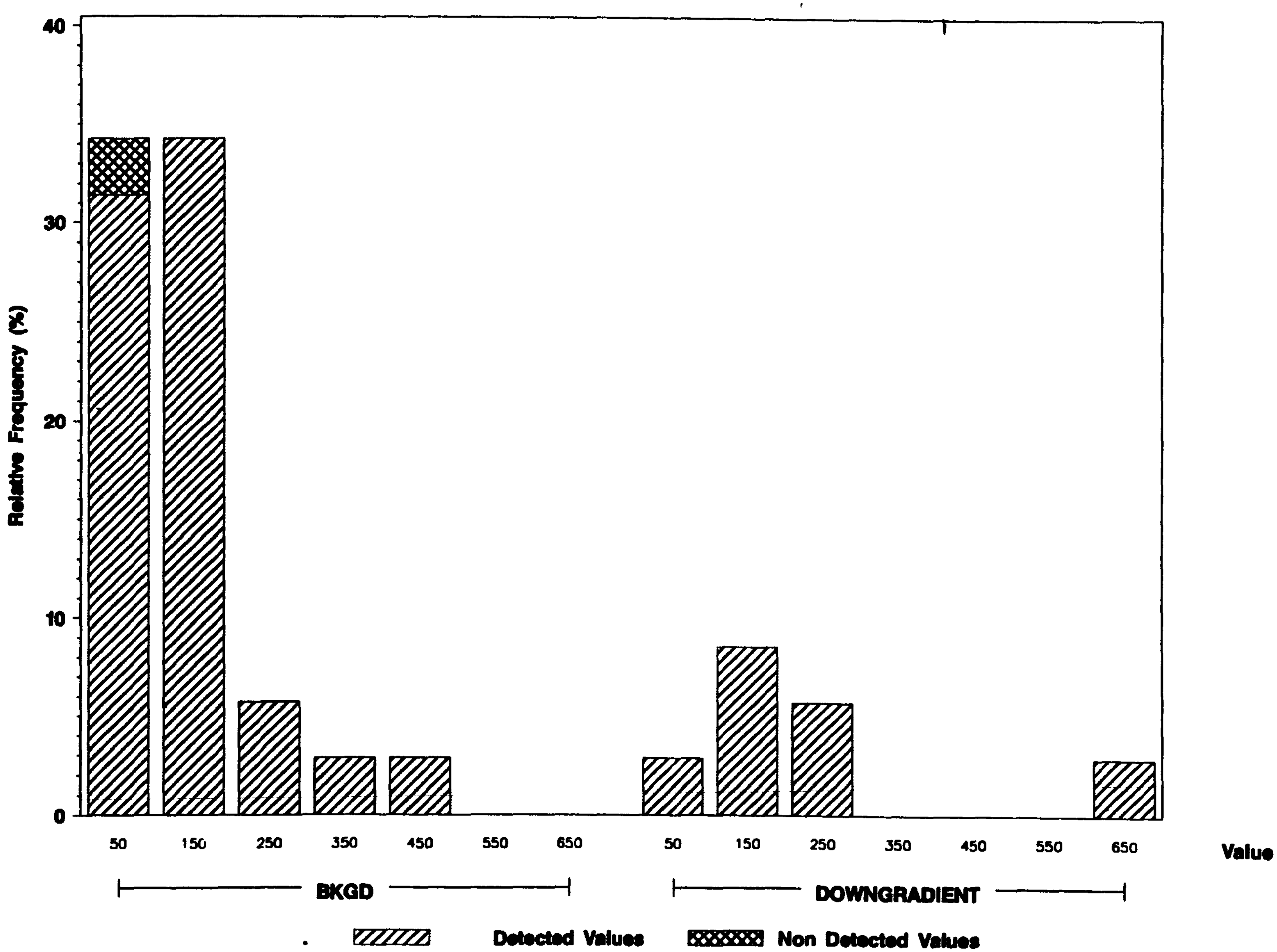
ANALYTE = ARSENIC



Background Qc vs Downgradient OU7 Qc Frequency Histogram

BARIUM (mg/Kg) in Subsurface Geologic Materials

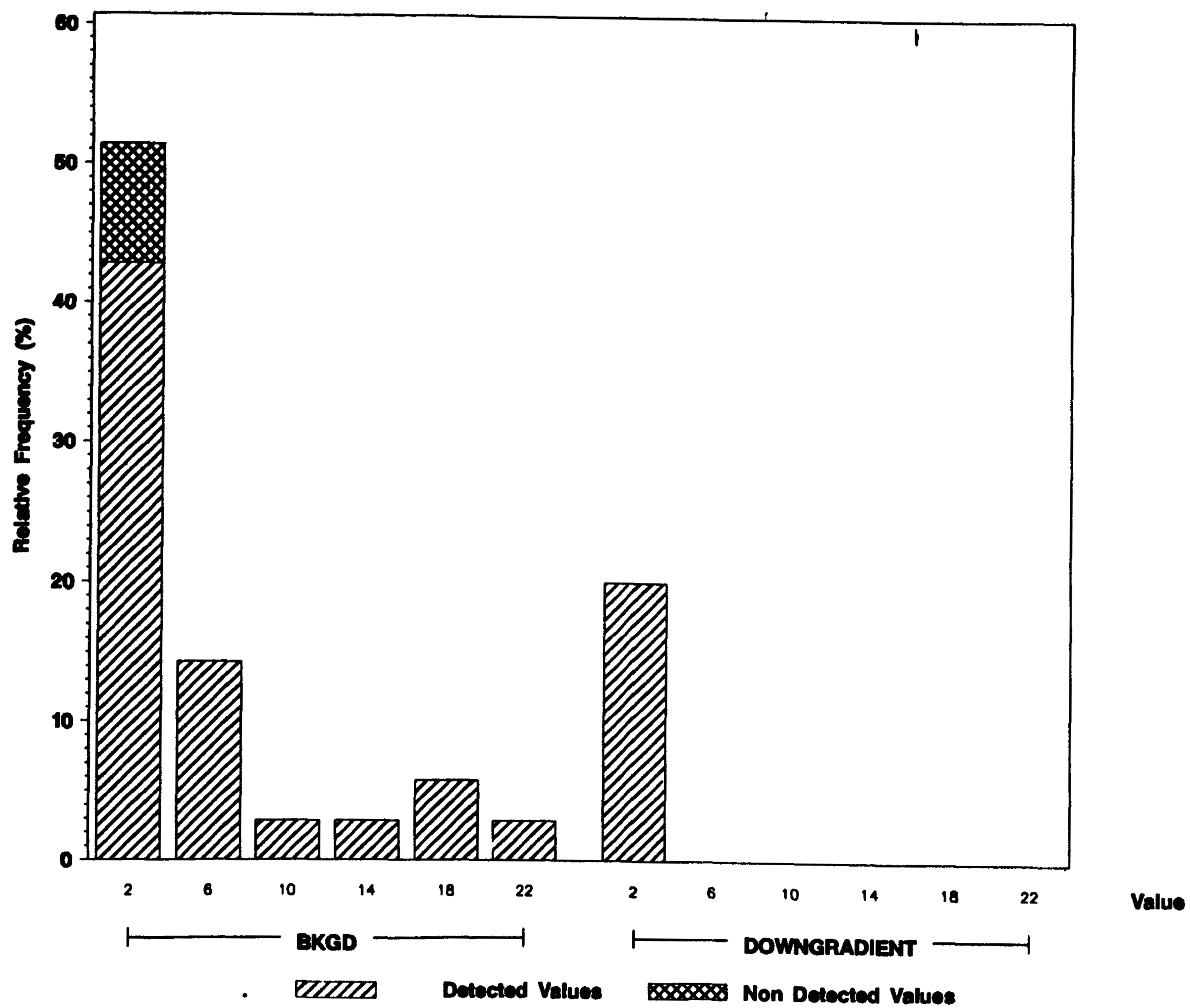
ANALYTE=BARIUM



Background Qc vs Downgradient OU7 Qc Frequency Histogram

BERYLLIUM (mg/Kg) in Subsurface Geologic Materials

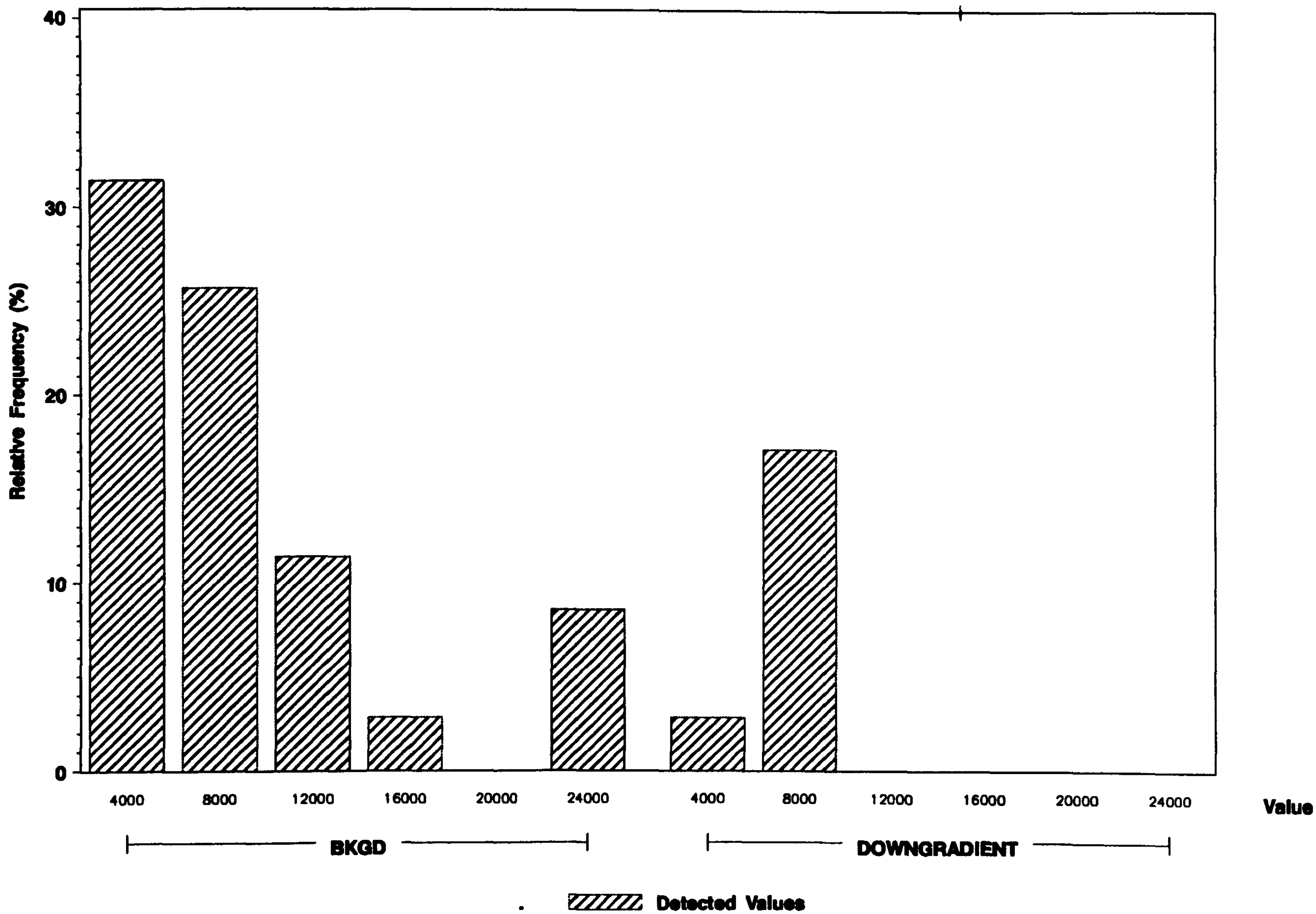
ANALYTE = BERYLLIUM



Background Qc vs Downgradient OU7 Qc Frequency Histogram

CALCIUM (mg/Kg) In Subsurface Geologic Materials

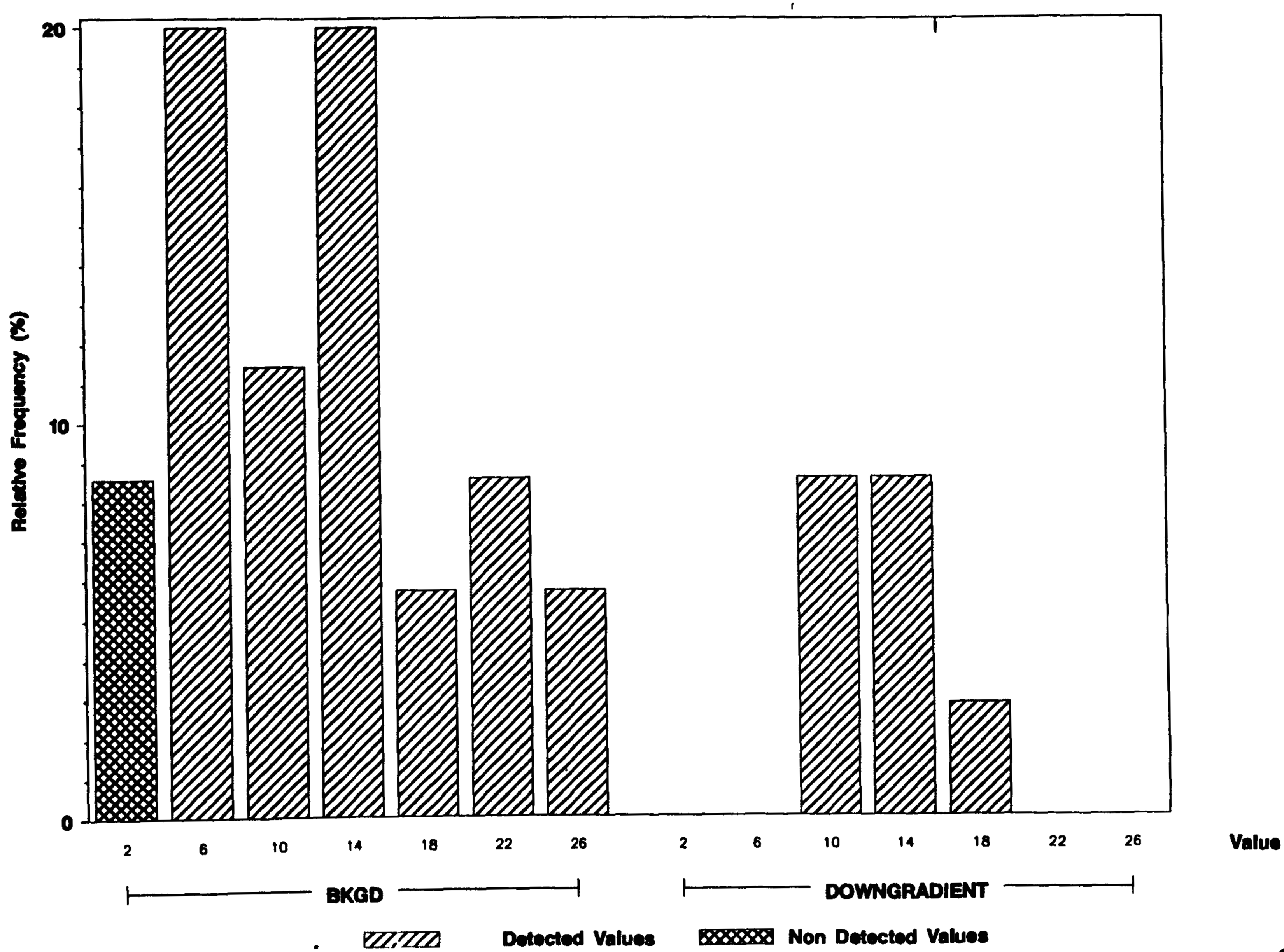
ANALYTE=CALCIUM



Background Qc vs Downgradient OU7 Qc Frequency Histogram

CHROMIUM (mg/Kg) In Subsurface Geologic Materials

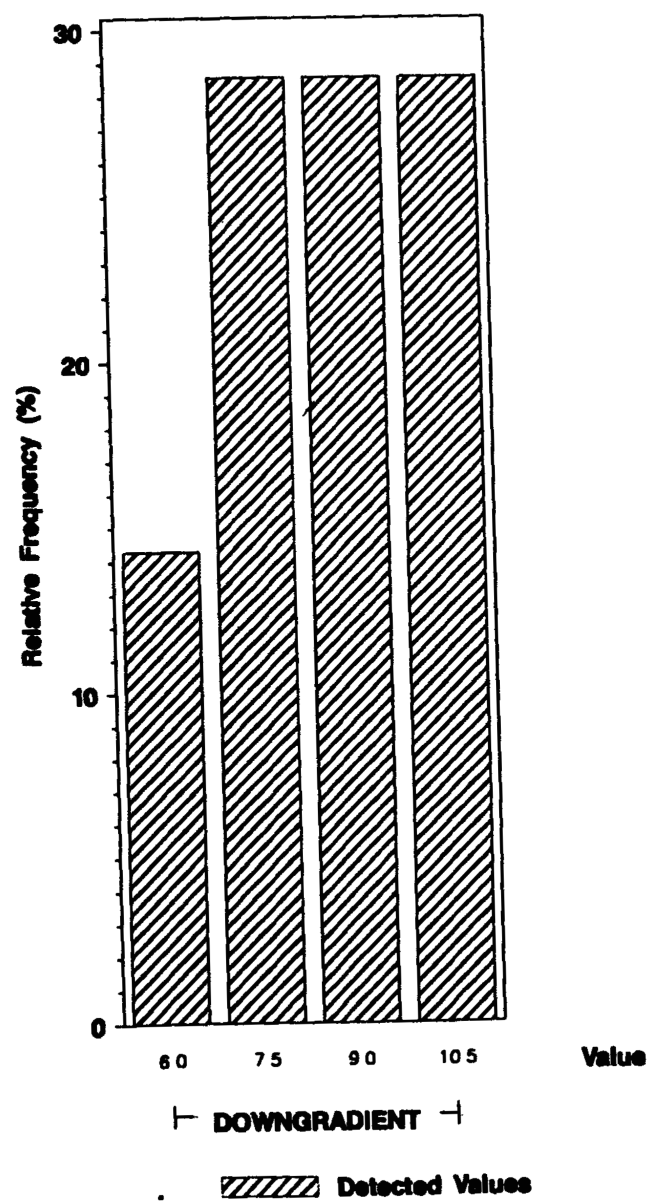
ANALYTE = CHROMIUM



Background Qc vs Downgradient OU7 Qc Frequency Histogram

COBALT (mg/Kg) In Subsurface Geologic Materials

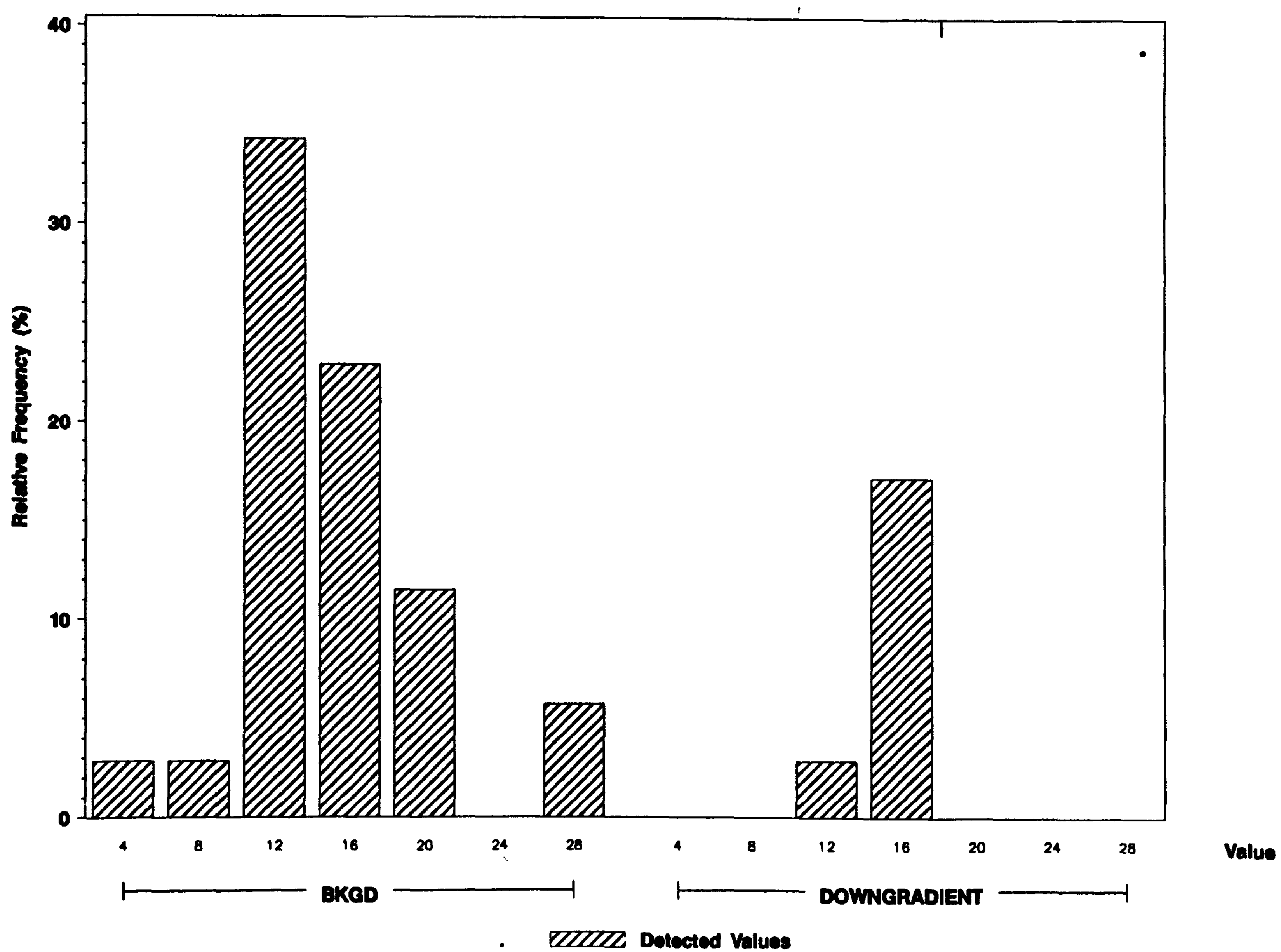
ANALYTE=COBALT



Background Qc vs Downgradient OU7 Qc Frequency Histogram

COPPER (mg/Kg) In Subsurface Geologic Materials

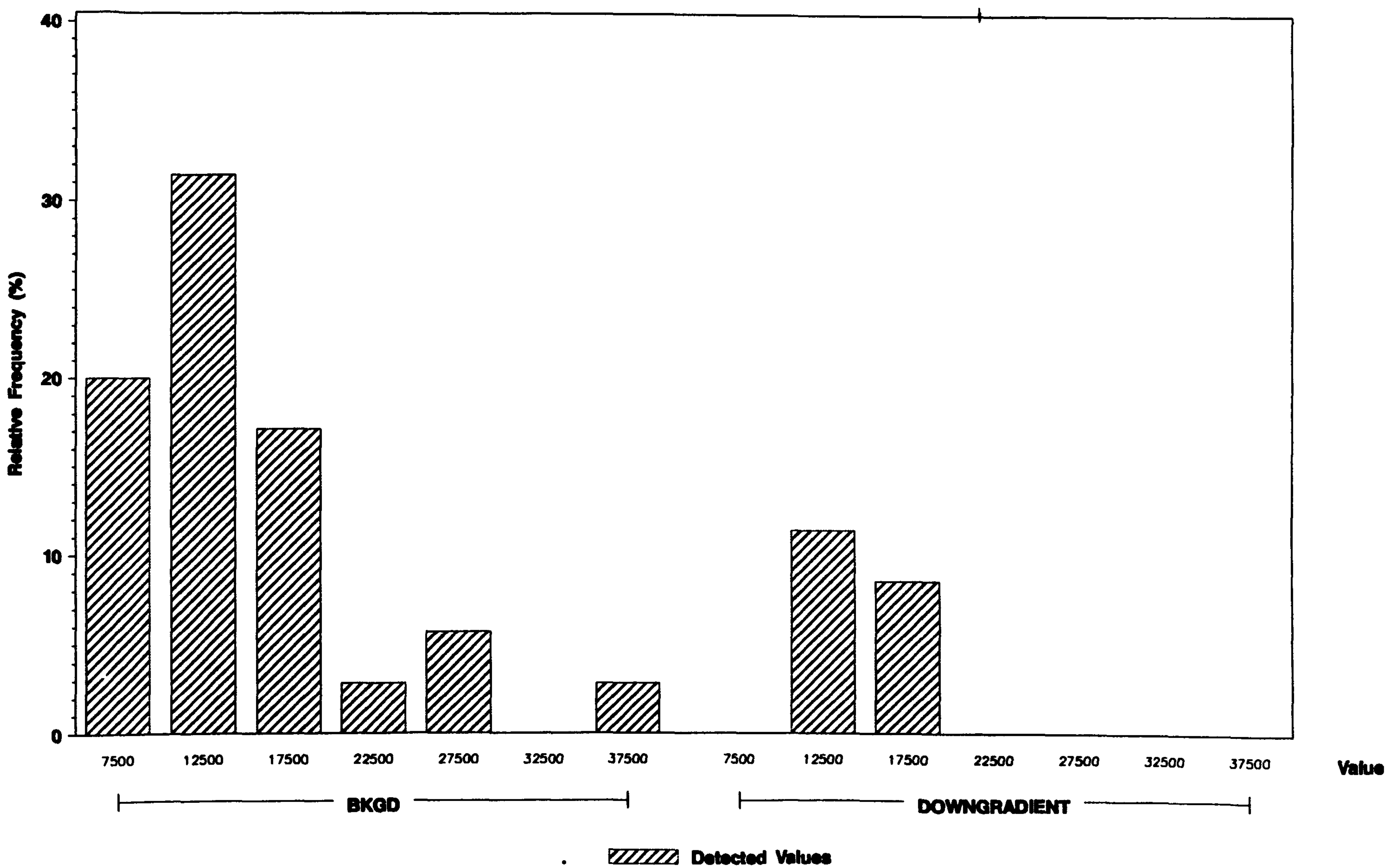
ANALYTE=COPPER



Background Qc vs Downgradient OU7 Qc Frequency Histogram

IRON (mg/Kg) in Subsurface Geologic Materials

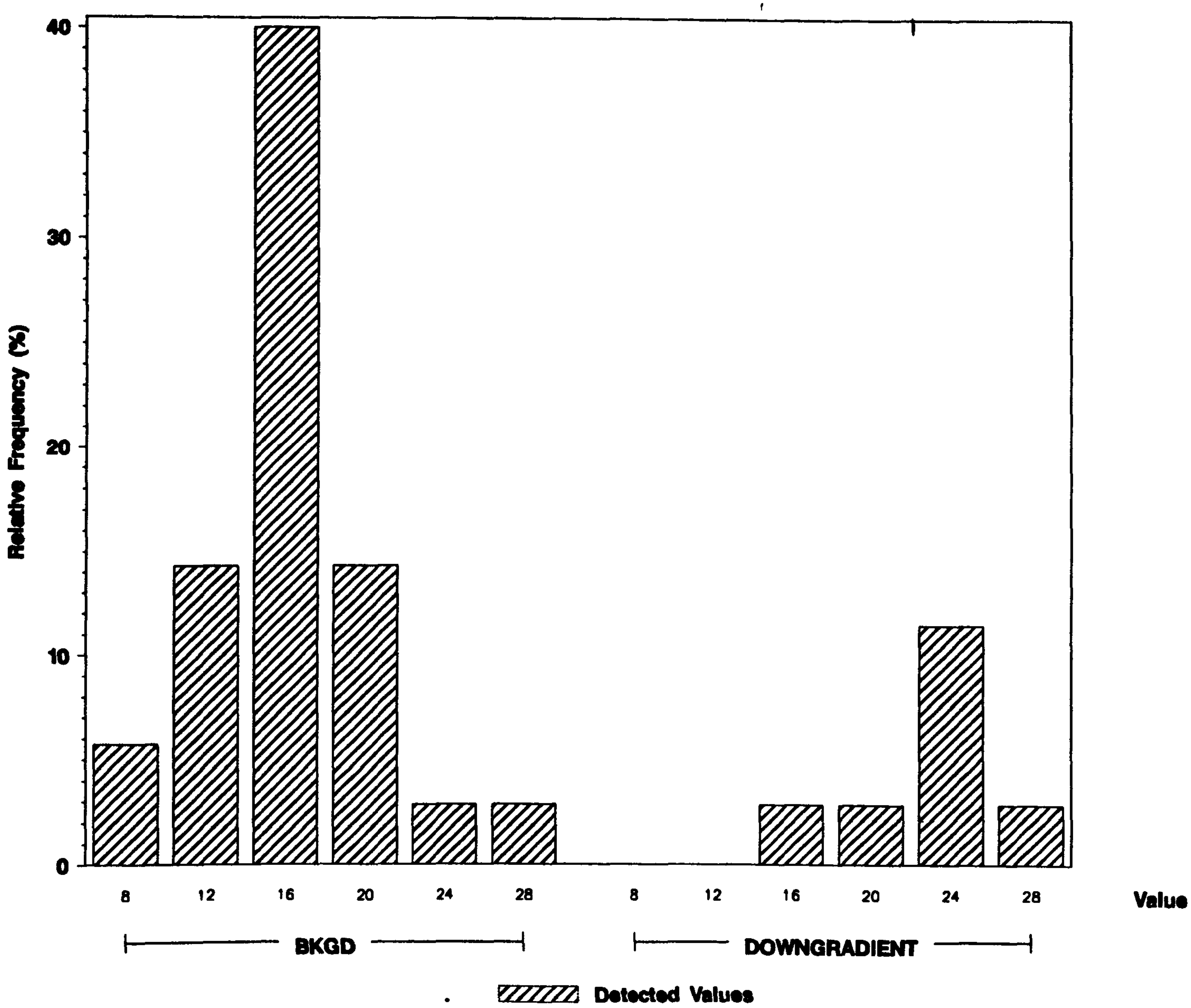
ANALYTE=IRON



Background Qc vs Downgradient OU7 Qc Frequency Histogram

LEAD (mg/Kg) in Subsurface Geologic Materials

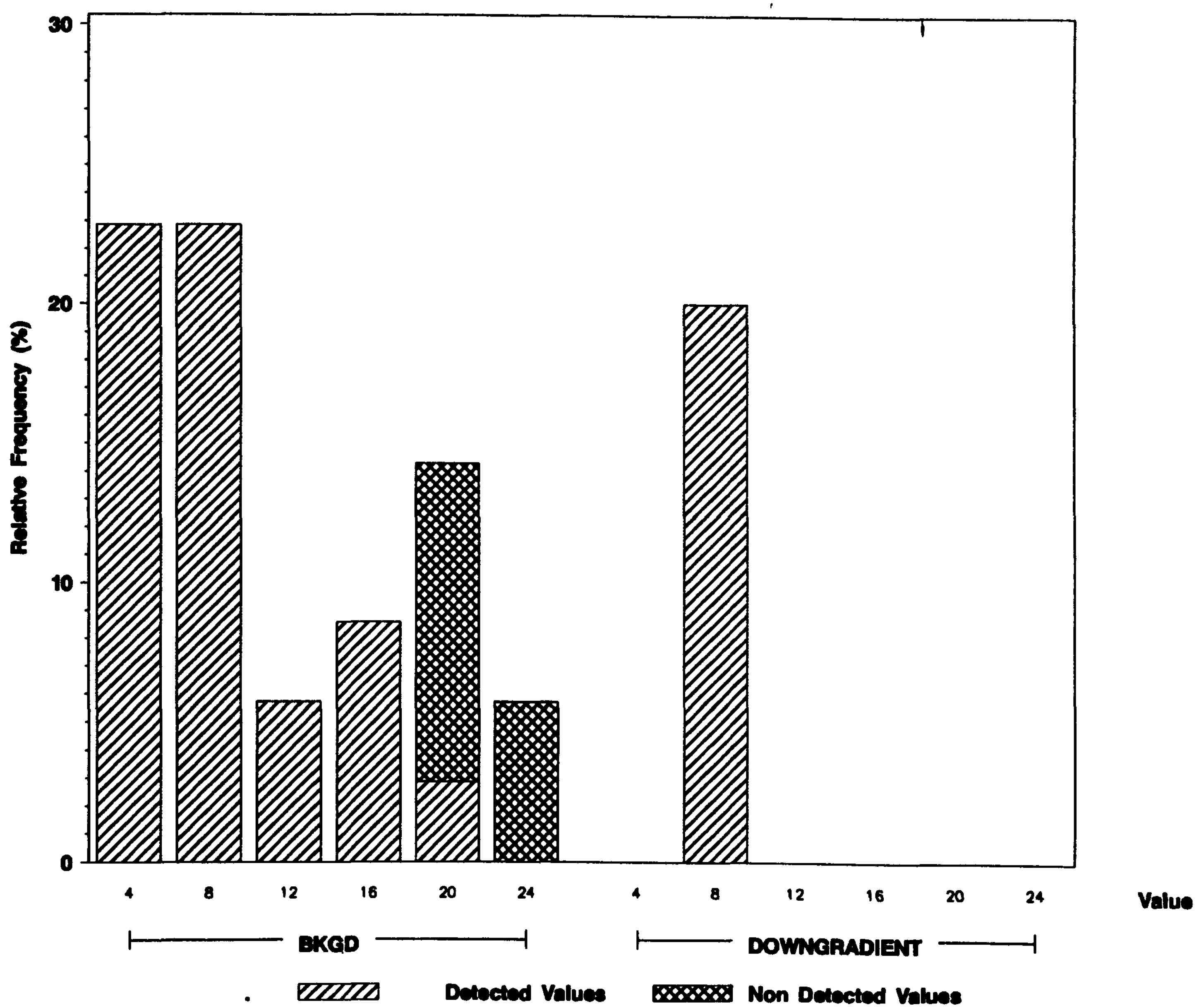
ANALYTE=LEAD



Background Qc vs Downgradient OU7 Qc Frequency Histogram

LITHIUM (mg/Kg) In Subsurface Geologic Materials

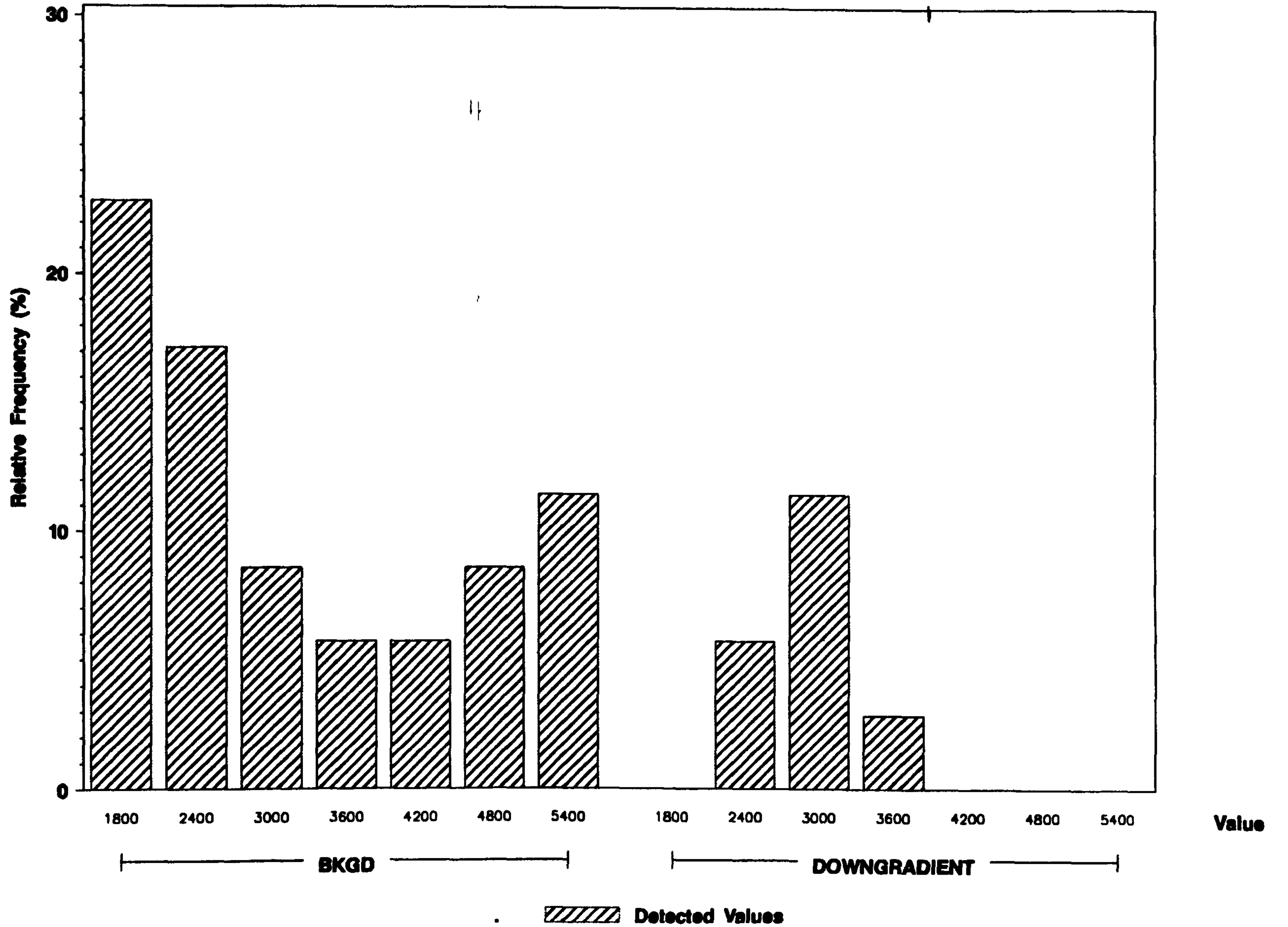
ANALYTE=LITHIUM



Background Qc vs Downgradient OU7 Qc Frequency Histogram

MAGNESIUM (mg/Kg) In Subsurface Geologic Materials

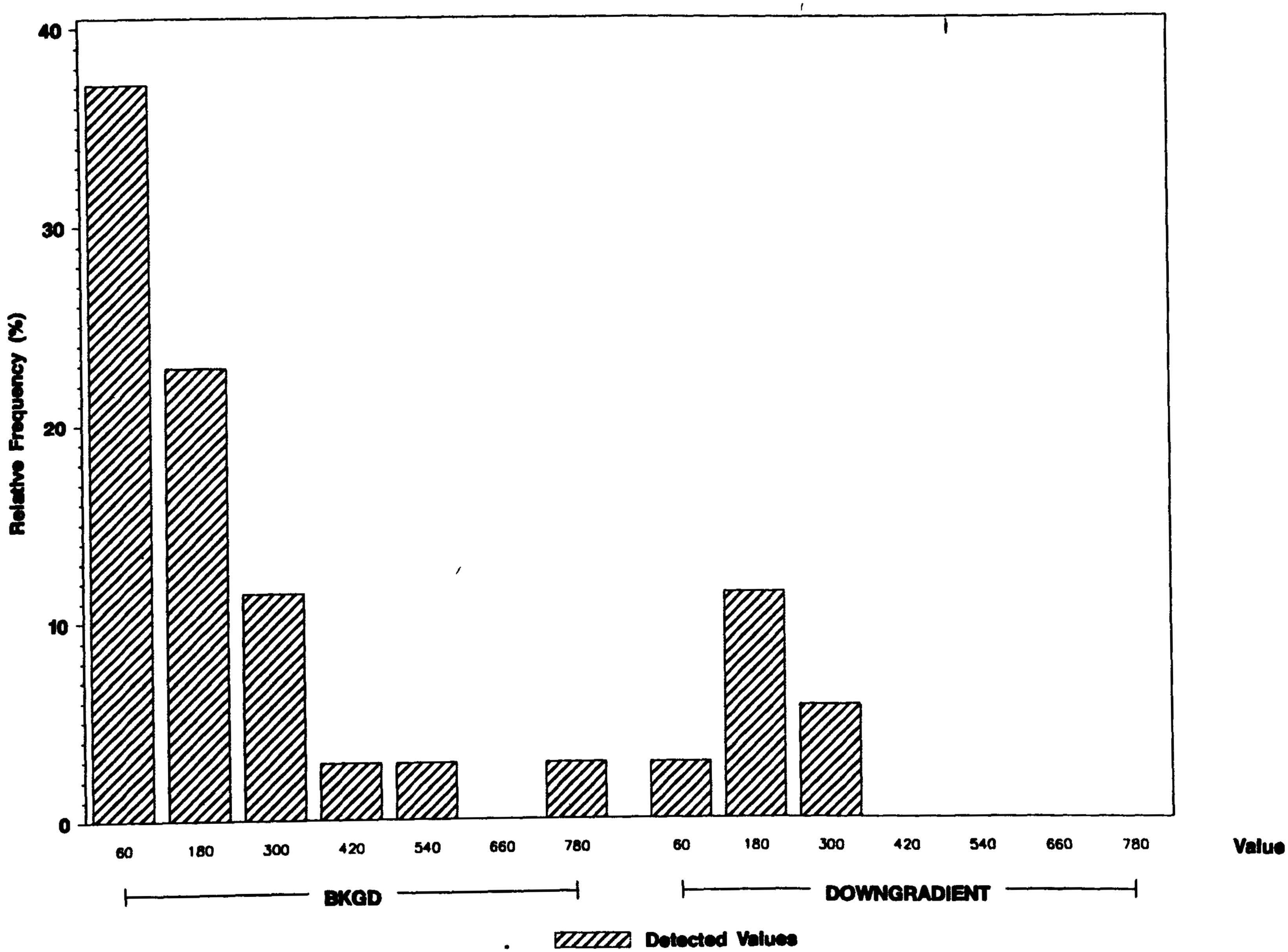
ANALYTE=MAGNESIUM



Background Qc vs Downgradient OU7 Qc Frequency Histogram

MANGANESE (mg/Kg) In Subsurface Geologic Materials

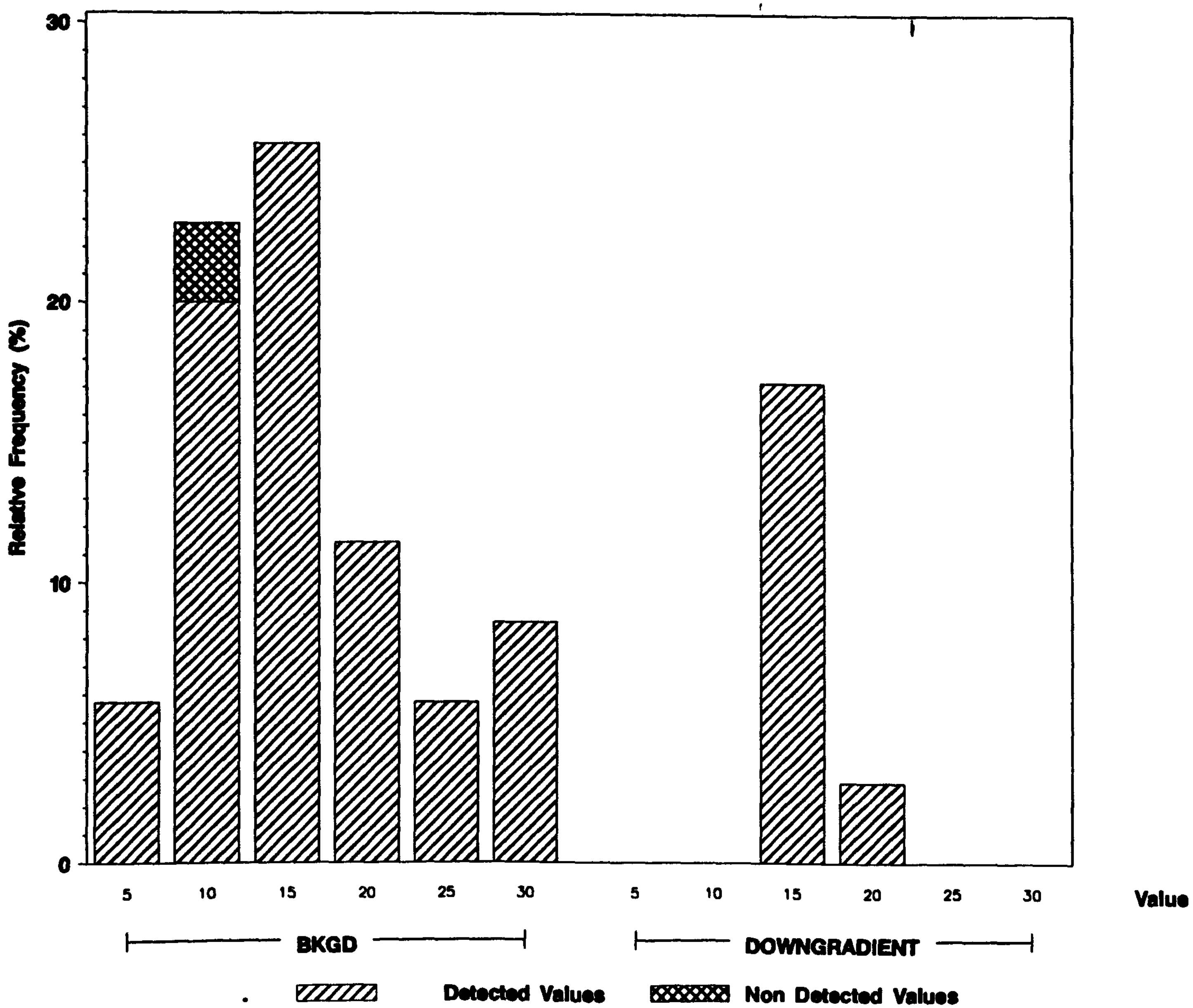
ANALYTE=MANGANESE



Background Qc vs Downgradient OU7 Qc Frequency Histogram

NICKEL (mg/Kg) in Subsurface Geologic Materials

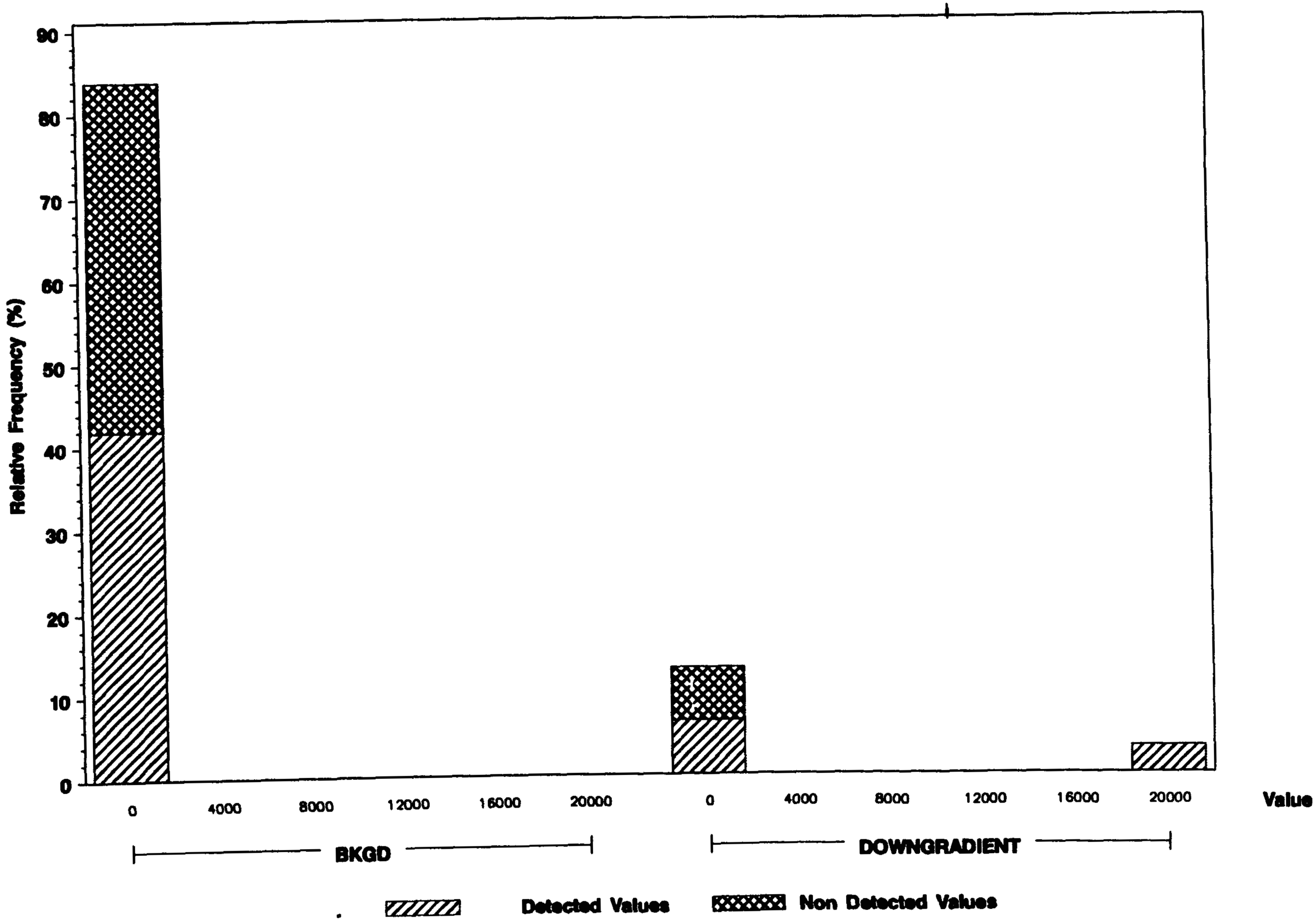
ANALYTE=NICKEL



Background Qc vs Downgradient OU7 Qc Frequency Histogram

NITRATE/NITRITE (mg/Kg) in Subsurface Geologic Materials

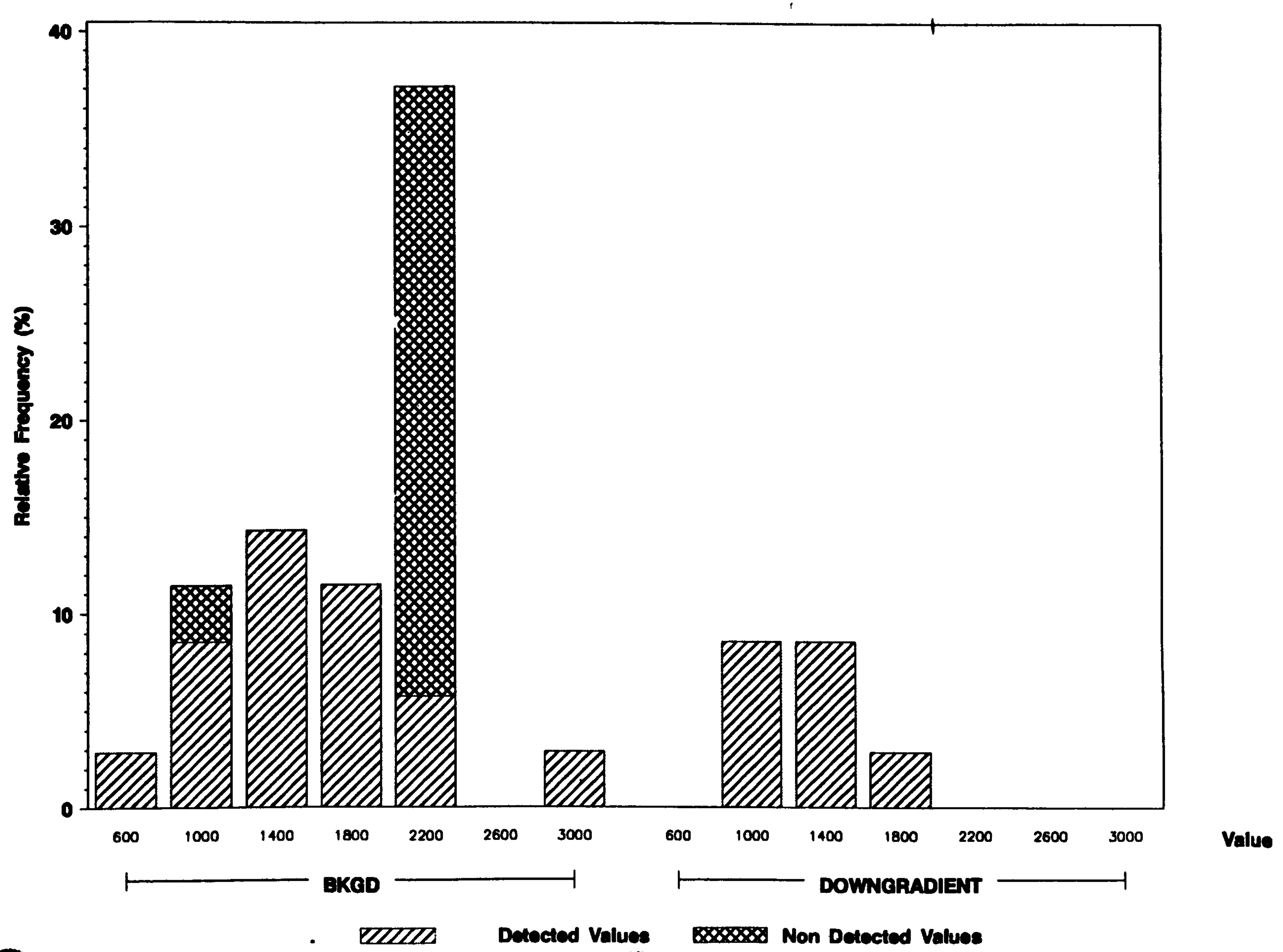
ANALYTE=NITRATE/NITRITE



Background Qc vs Downgradient OU7 Qc Frequency Histogram

POTASSIUM (mg/Kg) in Subsurface Geologic Materials

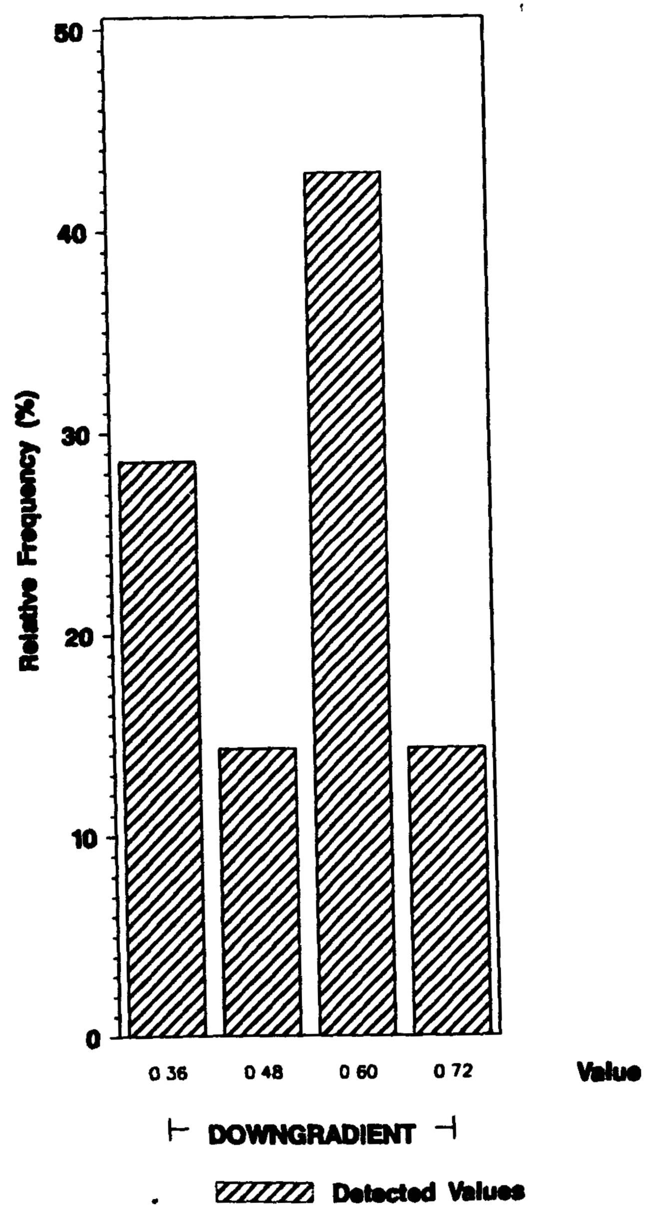
ANALYTE=POTASSIUM



Background Qc vs Downgradient OU7 Qc Frequency Histogram

SELENIUM (mg/Kg) in Subsurface Geologic Materials

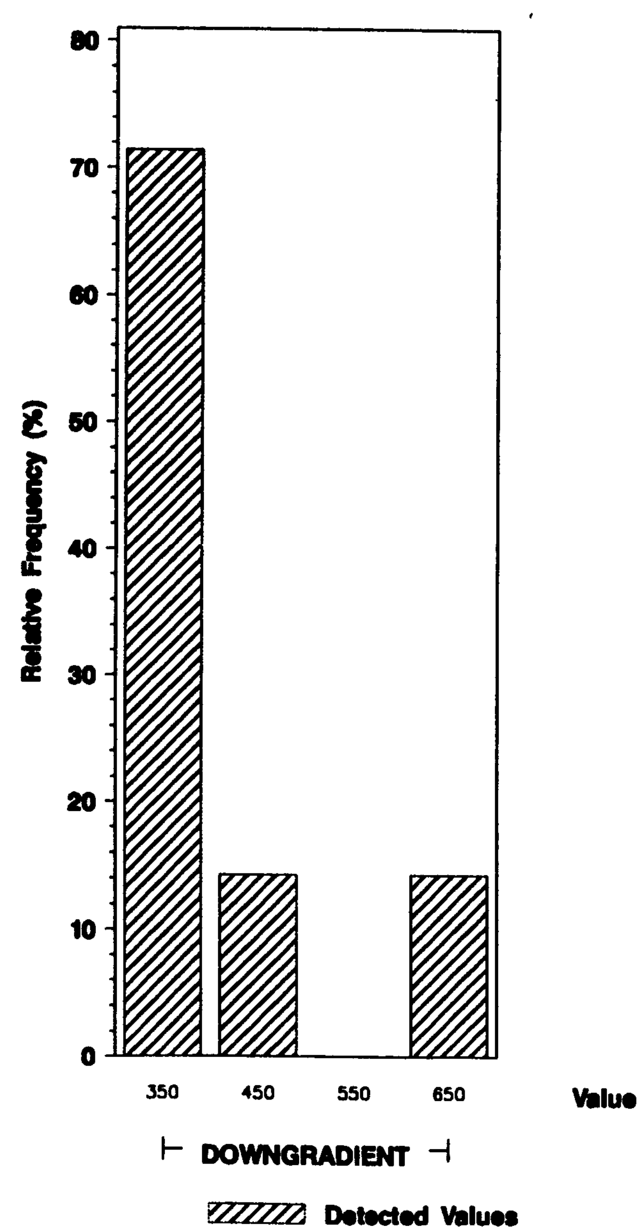
ANALYTE=SELENIUM



Background Qc vs Downgradient OU7 Qc Frequency Histogram

SILICON (mg/Kg) In Subsurface Geologic Materials

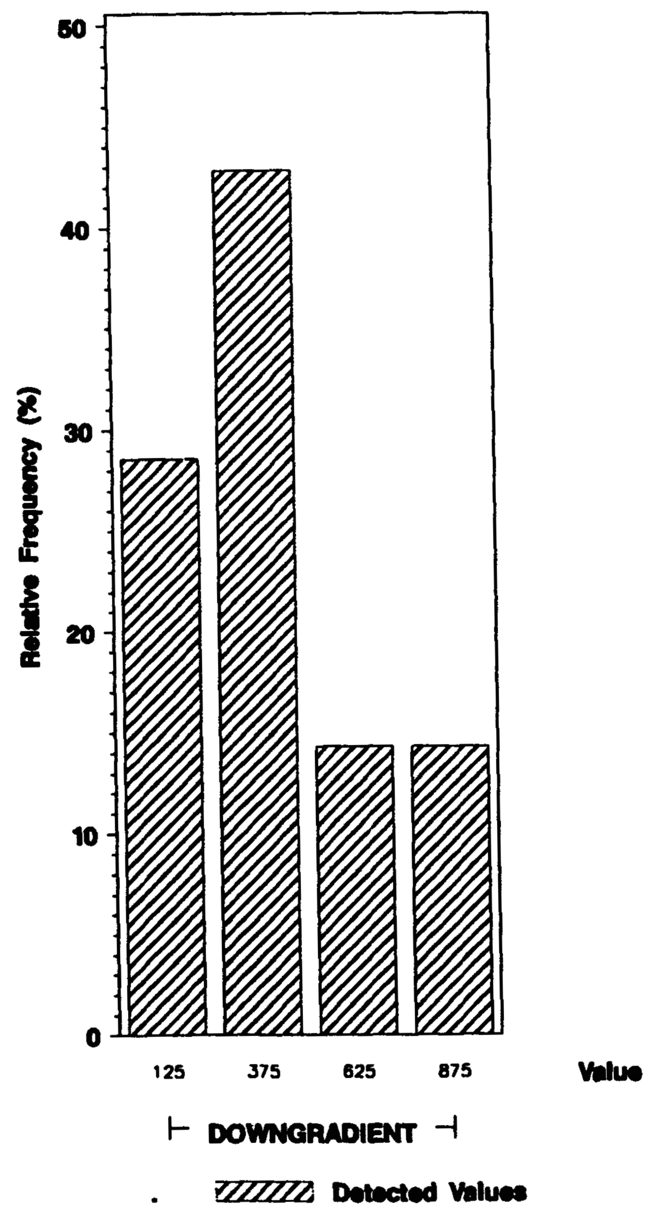
ANALYTE=SILICON



Background Qc vs Downgradient OU7 Qc Frequency Histogram

SODIUM (mg/Kg) in Subsurface Geologic Materials

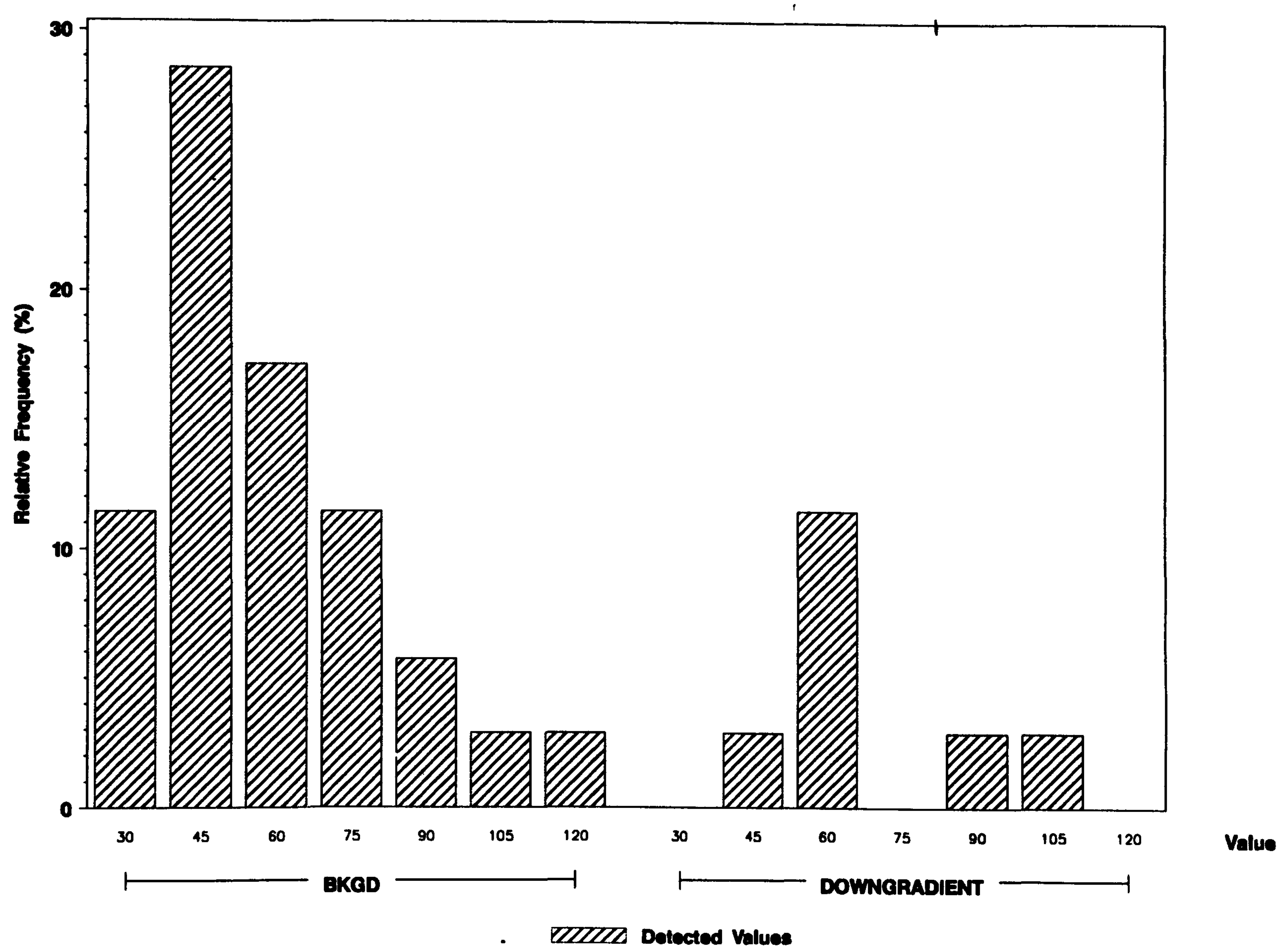
ANALYTE=SODIUM



Background Qc vs Downgradient OU7 Qc Frequency Histogram

STRONTIUM (mg/Kg) in Subsurface Geologic Materials

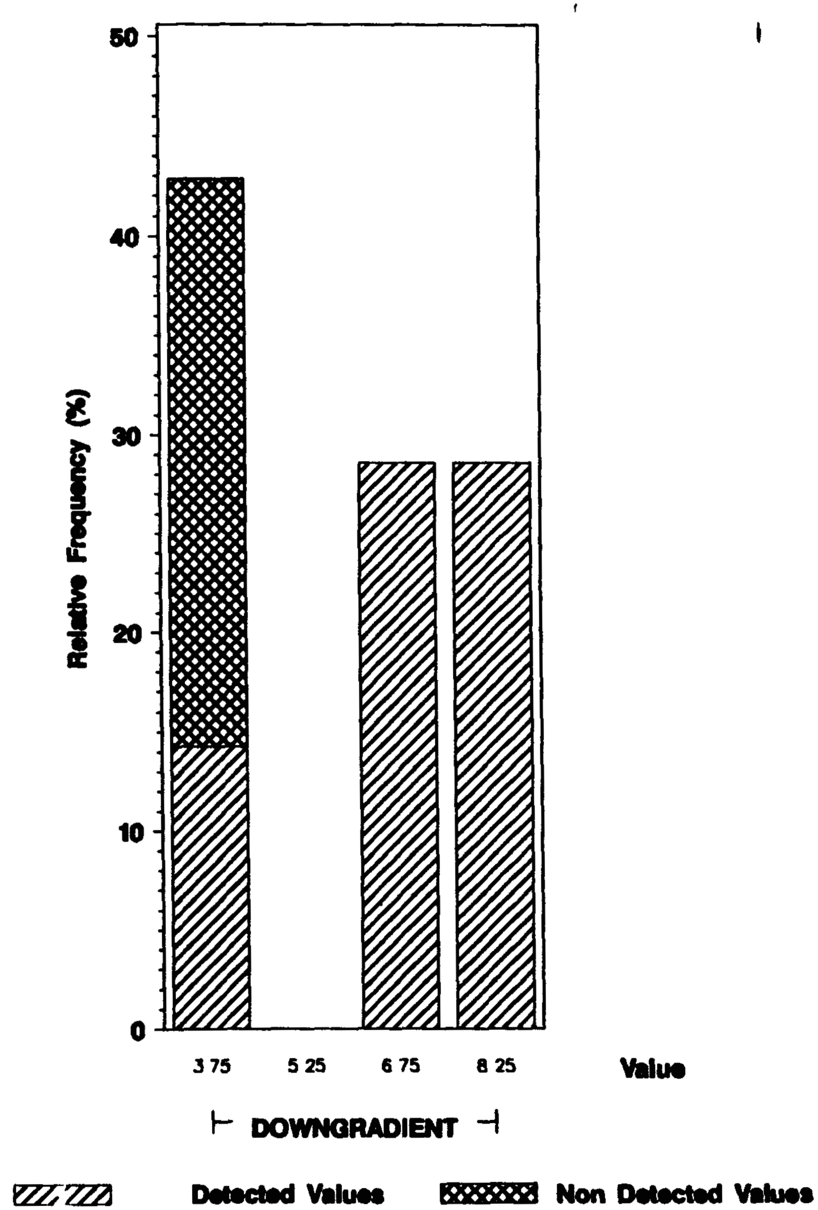
ANALYTE=STRONTIUM



Background Qc vs Downgradient OU7 Qc Frequency Histogram

TIN (mg/Kg) in Subsurface Geologic Materials

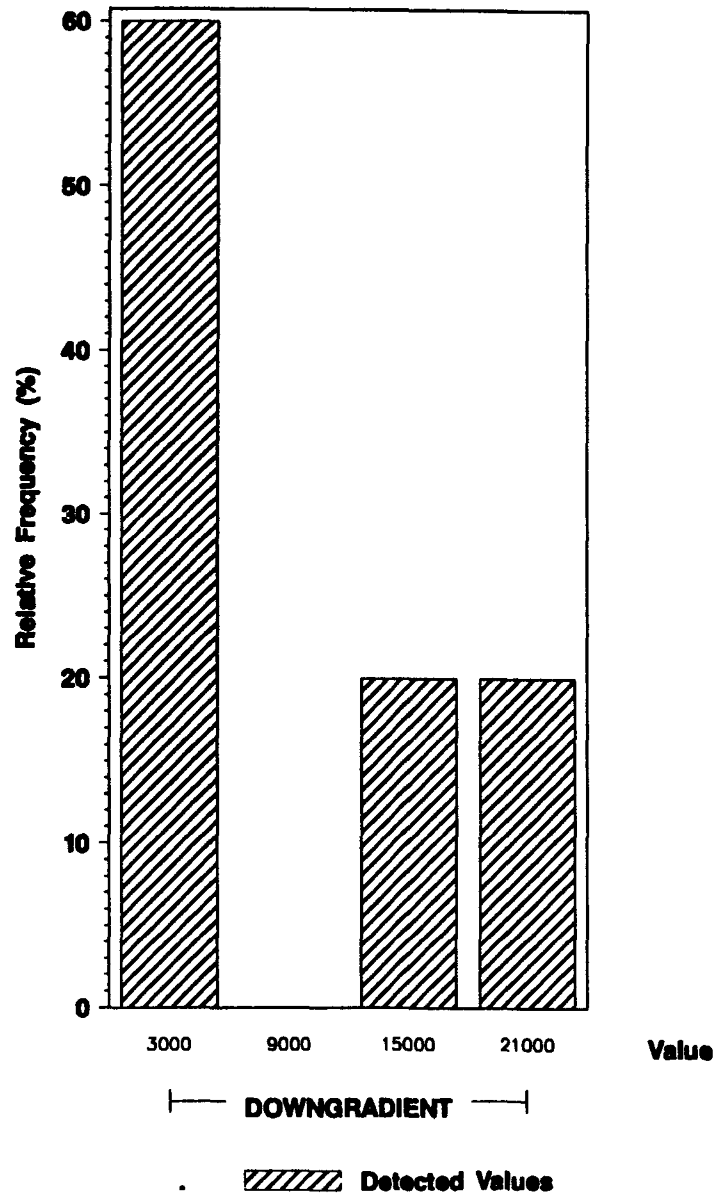
ANALYTE = TIN



Background Qc vs Downgradient OU7 Qc Frequency Histogram

TOTAL ORGANIC CARBON (mg/Kg) In Subsurface Geologic Materials

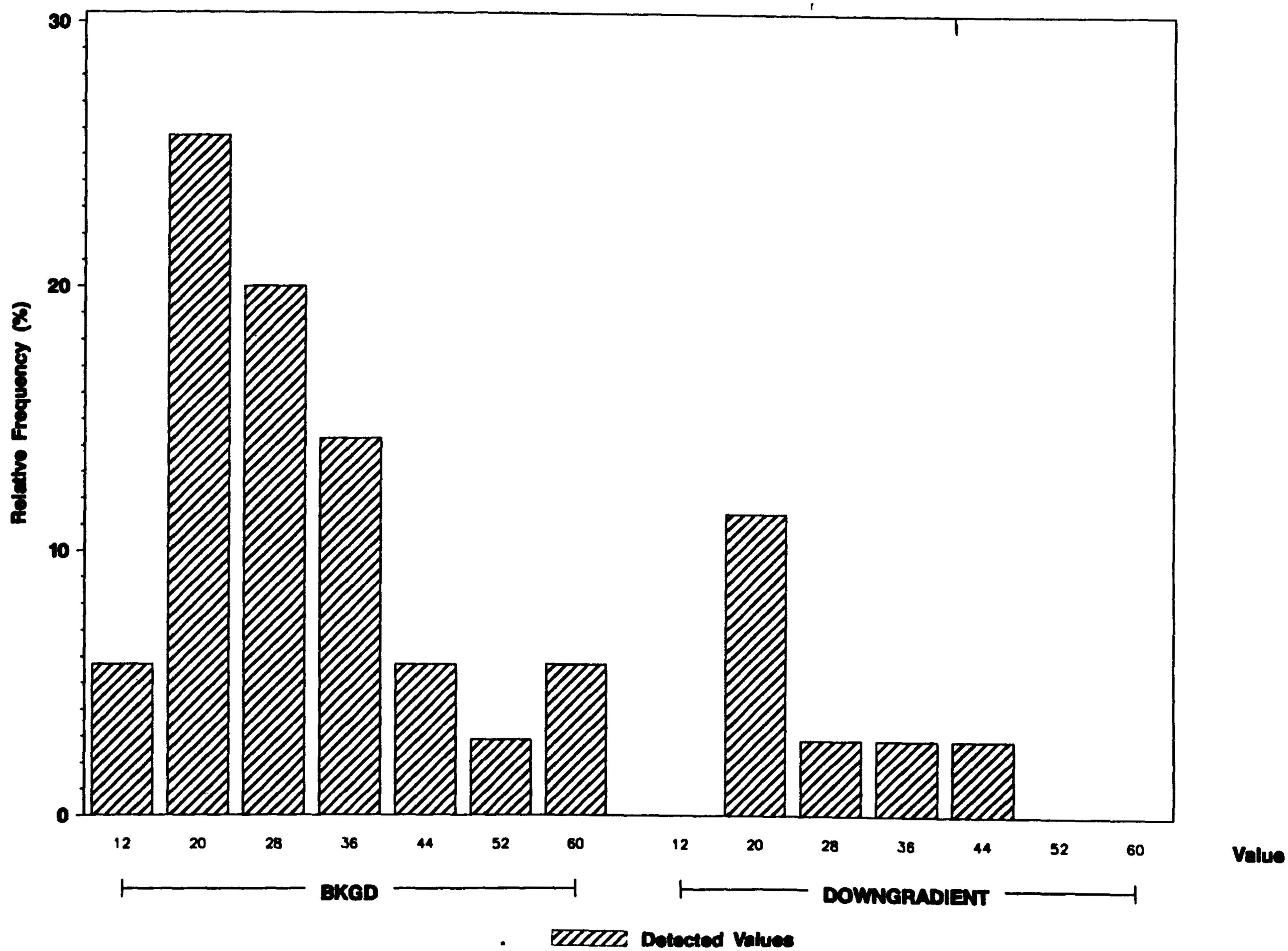
ANALYTE=TOTAL ORGANIC CARBON



Background Qc vs Downgradient OU7 Qc Frequency Histogram

VANADIUM (mg/Kg) in Subsurface Geologic Materials

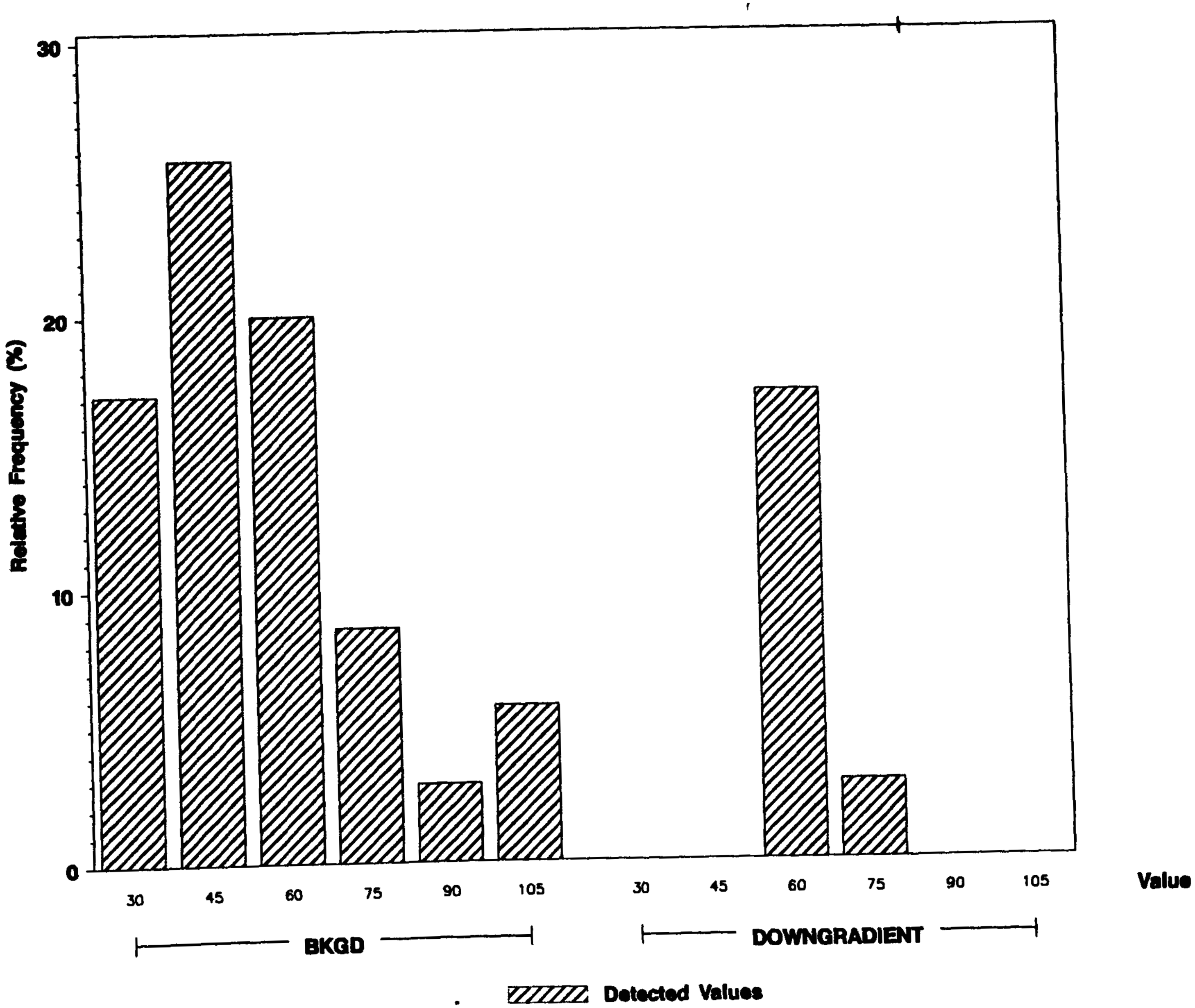
ANALYTE=VANADIUM



Background Qc vs Downgradient OU7 Qc Frequency Histogram

ZINC (mg/Kg) In Subsurface Geologic Materials

ANALYTE=ZINC



Background Qc vs Downgradient OU7 Qc Frequency Histogram

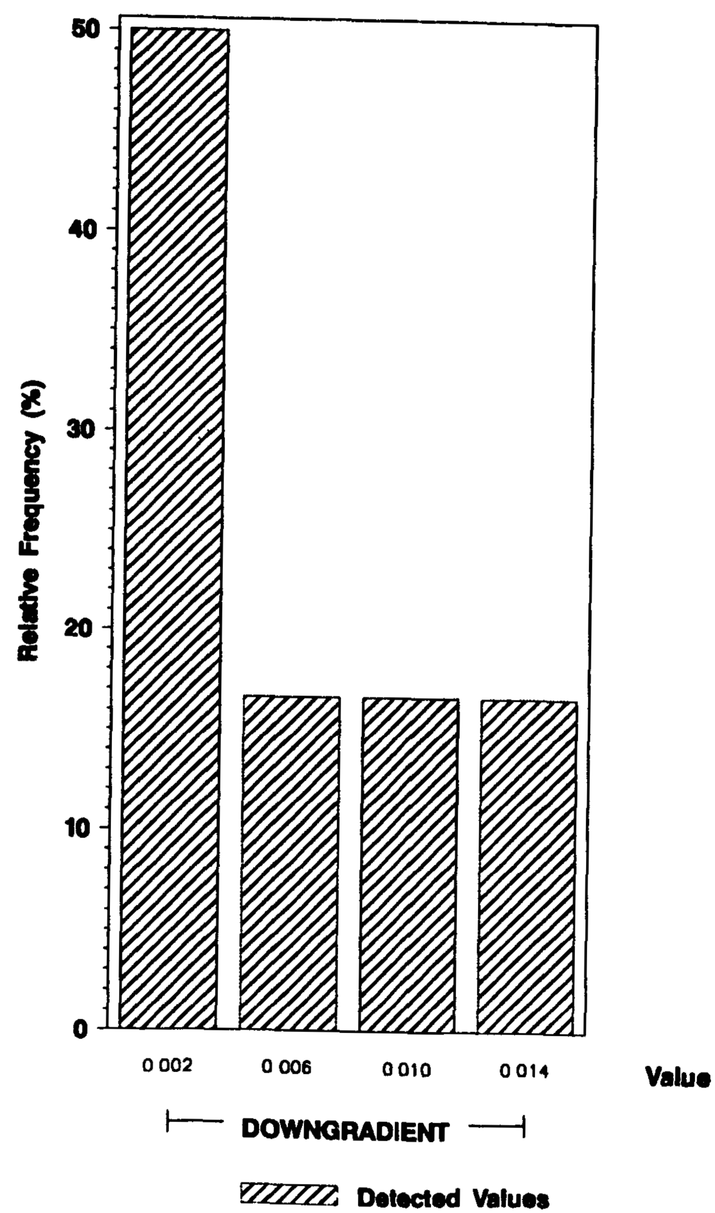
% SOLIDS (%) in Subsurface Geologic Materials

ANALYTE=% SOLIDS

Background Qc vs Downgradient OU7 Qc Frequency Histogram

AMERICIUM – 241 (pCi/g) in Subsurface Geologic Materials

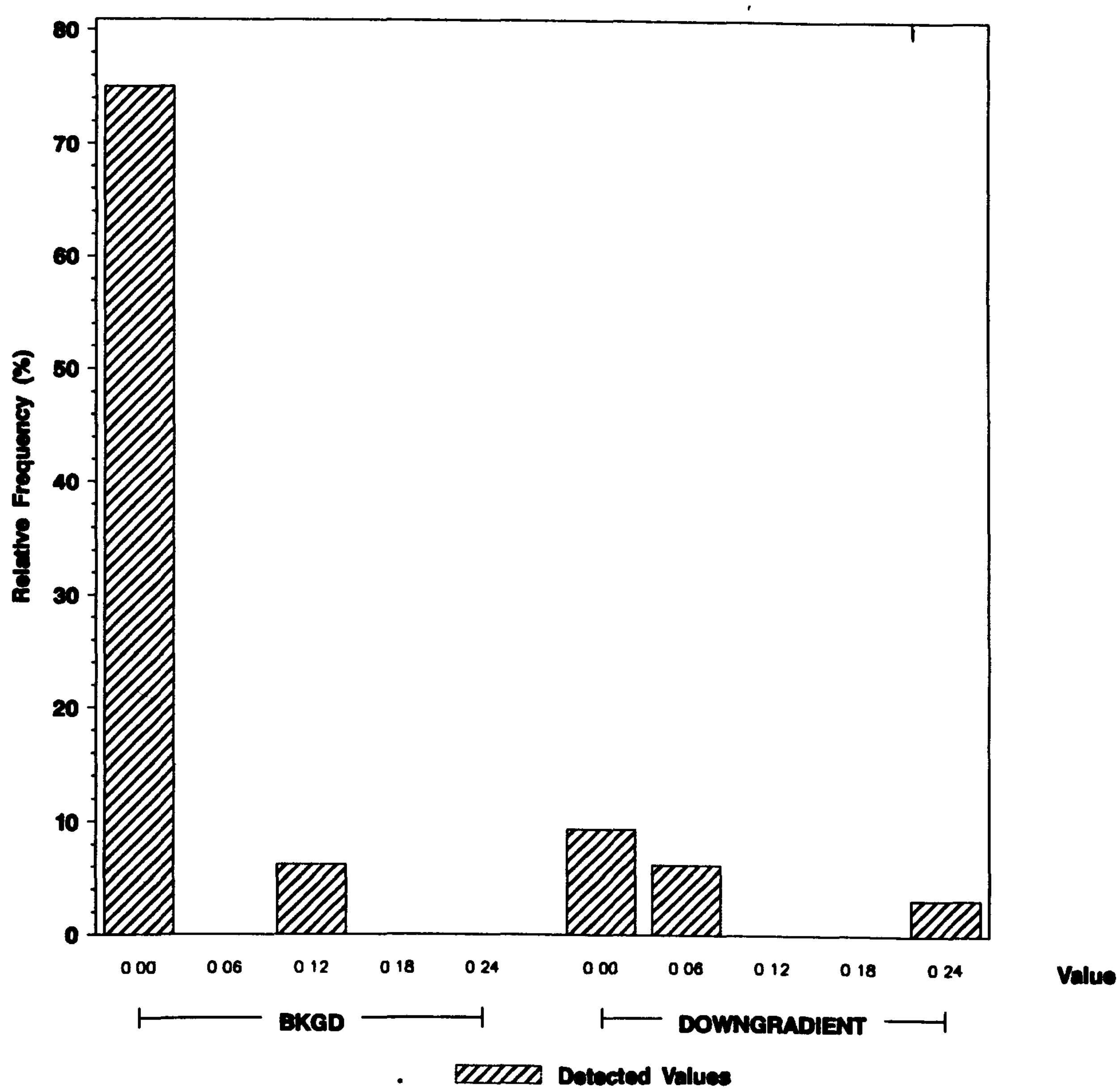
ANALYTE = AMERICIUM – 241



Background Qc vs Downgradient OU7 Qc Frequency Histogram

CESIUM-137 (pCi/g) in Subsurface Geologic Materials

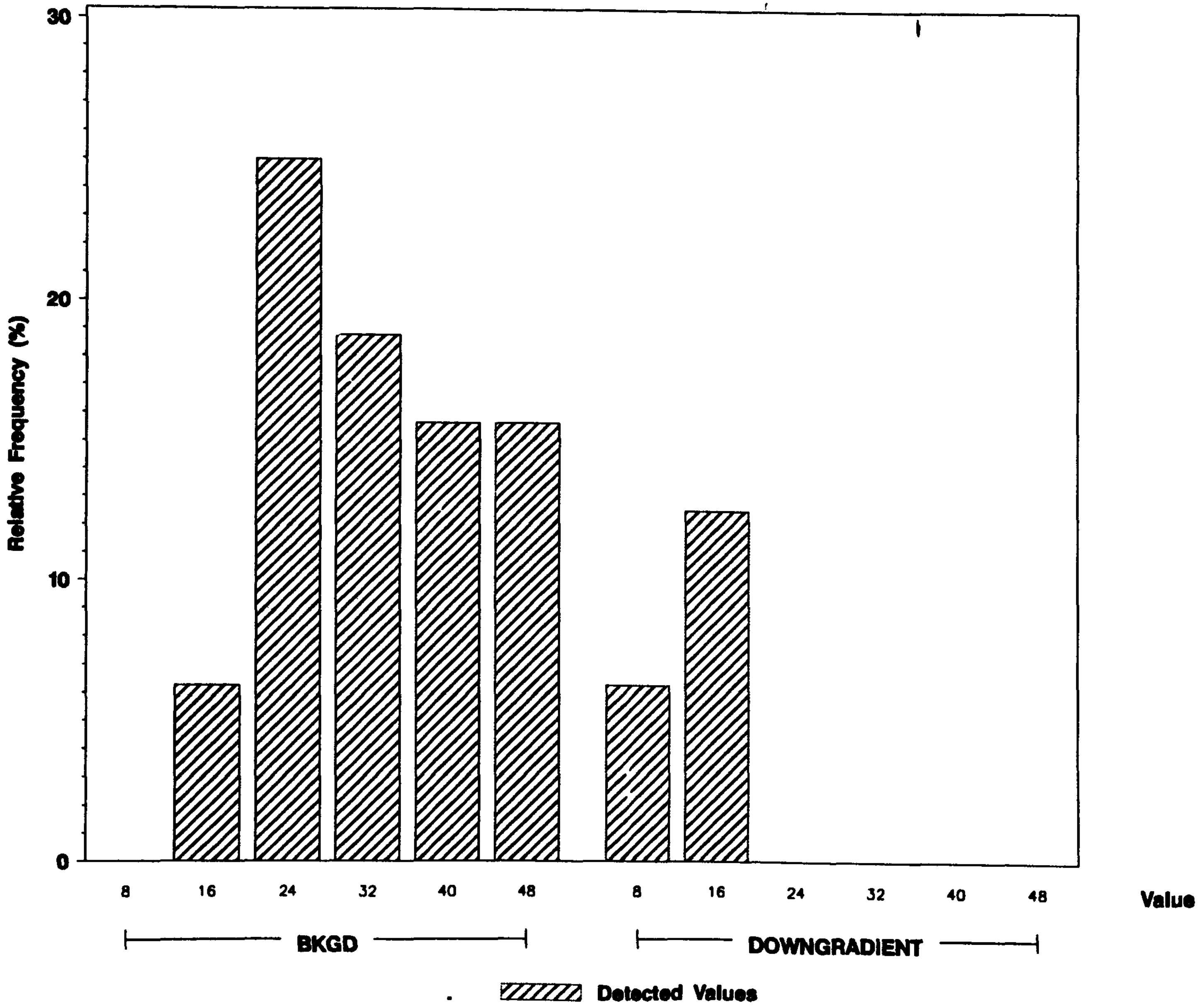
ANALYTE=CESIUM-137



Background Qc vs Downgradient OU7 Qc Frequency Histogram

GROSS ALPHA (pCi/g) in Subsurface Geologic Materials

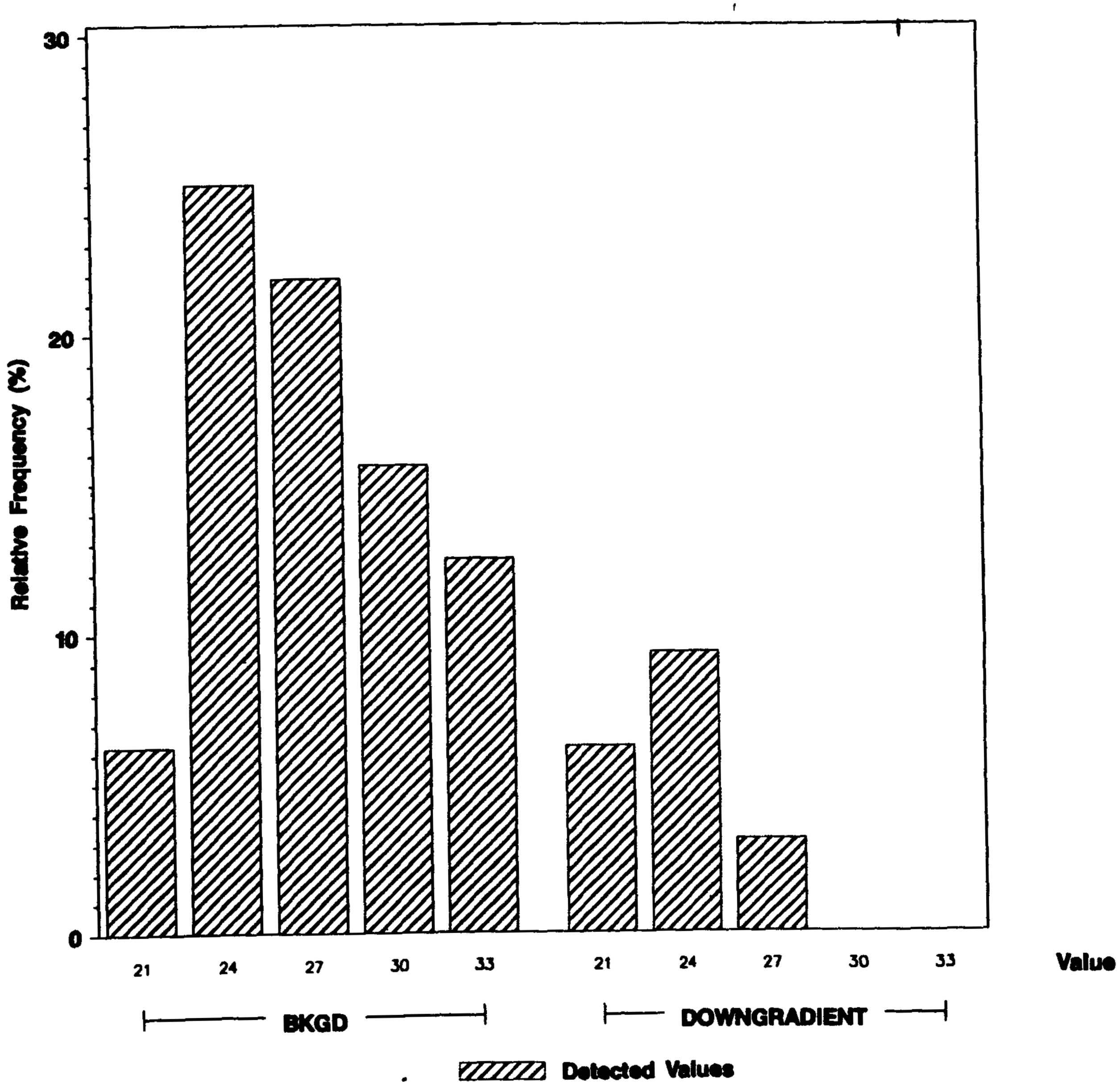
ANALYTE=GROSS ALPHA



Background Qc vs Downgradient OU7 Qc Frequency Histogram

GROSS BETA (pCi/g) In Subsurface Geologic Materials

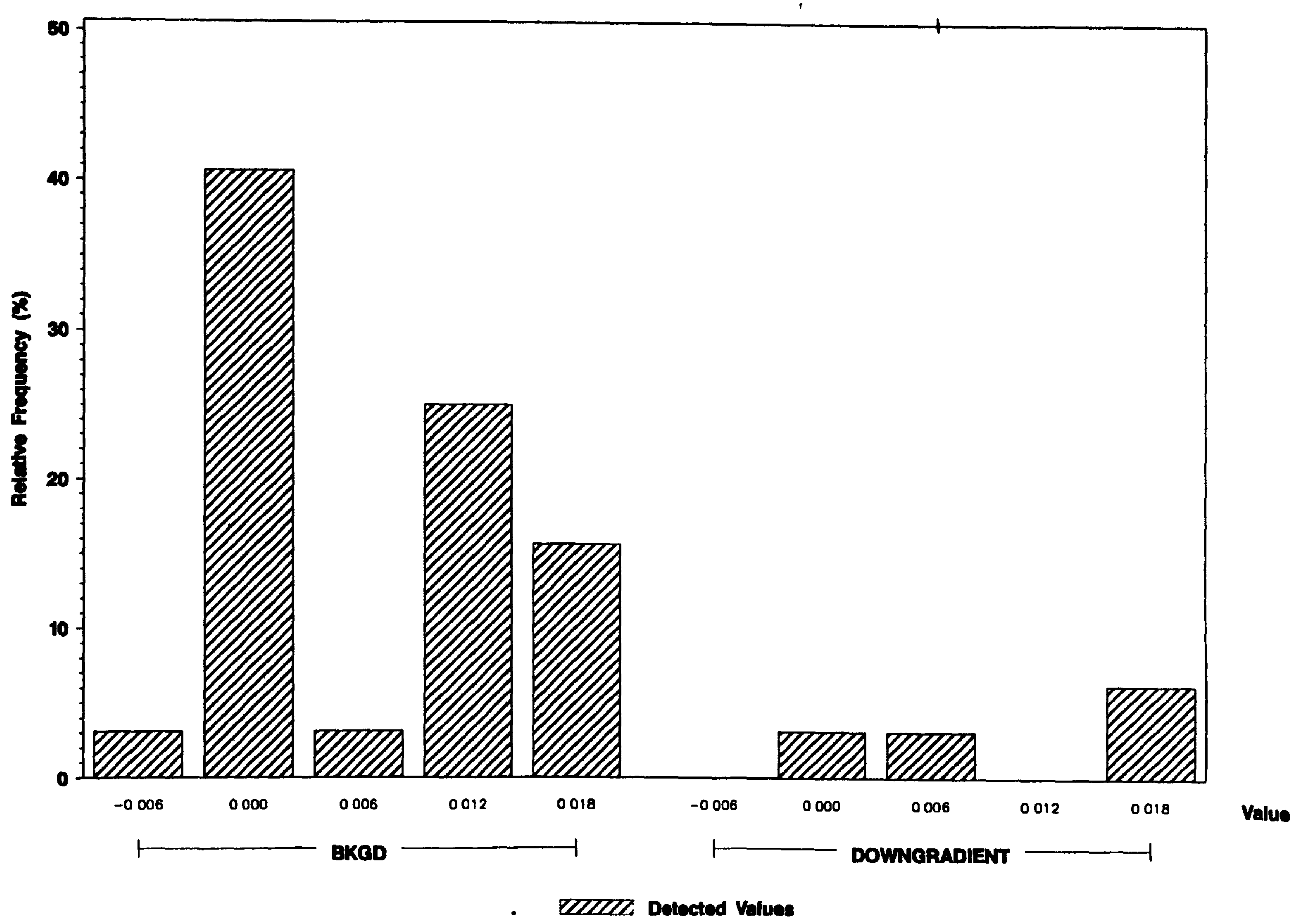
ANALYTE=GROSS BETA



Background Qc vs Downgradient OU7 Qc Frequency Histogram

PLUTONIUM – 239,240 (pCi/g) in Subsurface Geologic Materials

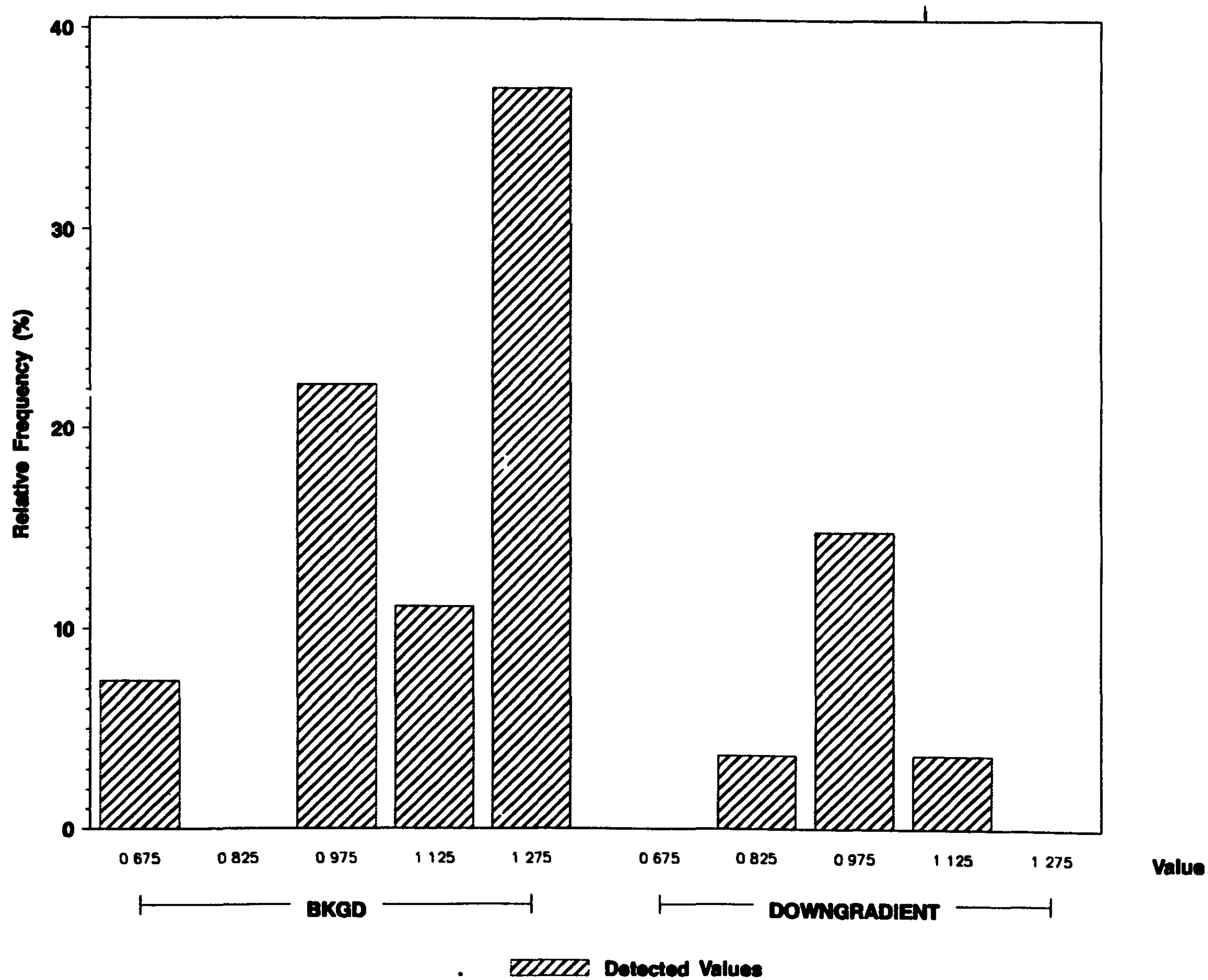
ANALYTE = PLUTONIUM – 239,240



Background Qc vs Downgradient OU7 Qc Frequency Histogram

RADIUM-226 (pCi/g) in Subsurface Geologic Materials

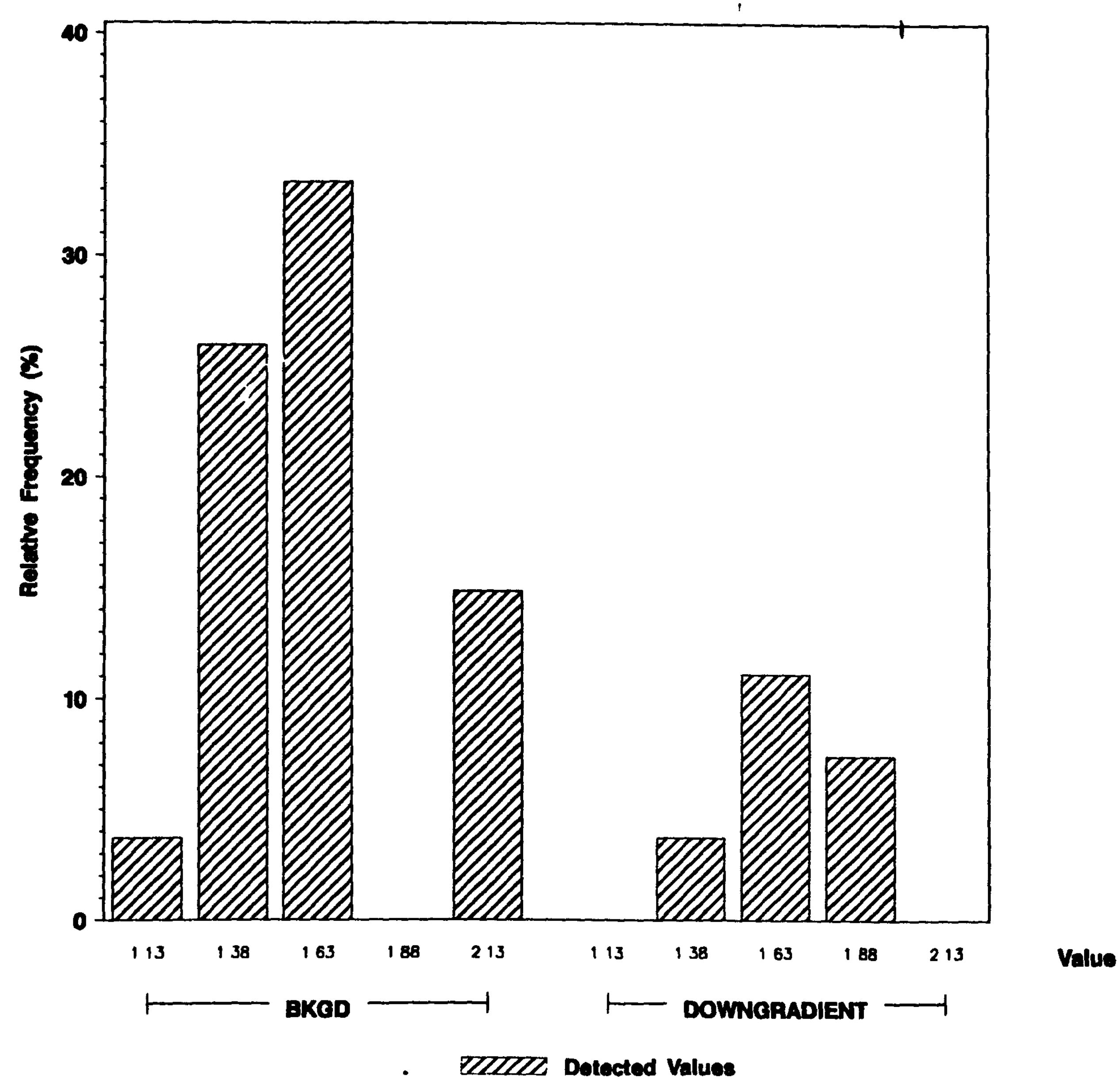
ANALYTE=RADIUM-226



Background Qc vs Downgradient OU7 Qc Frequency Histogram

RADIUM-228 (pCi/g) in Subsurface Geologic Materials

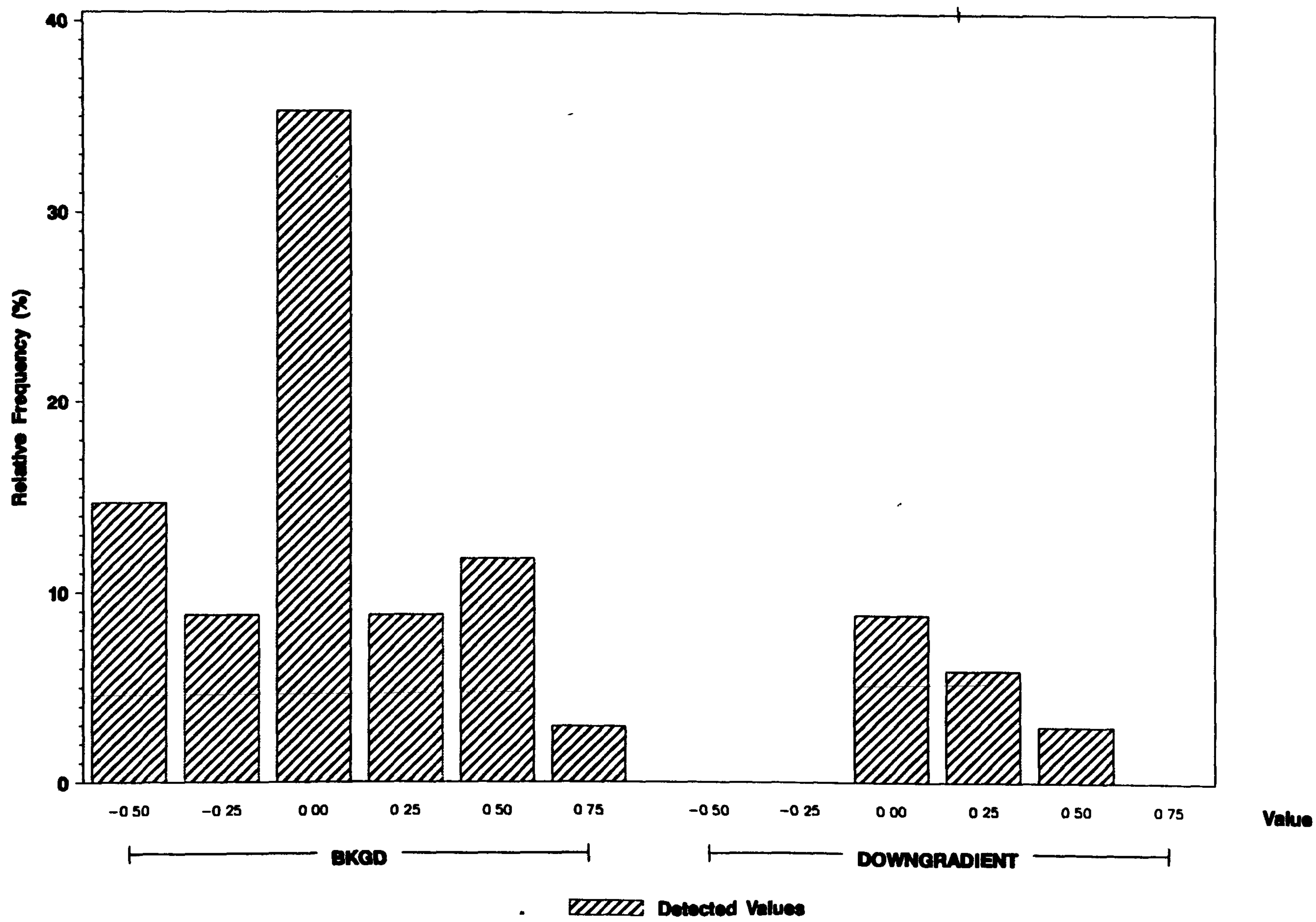
ANALYTE=RADIUM-228



Background Qc vs Downgradient OU7 Qc Frequency Histogram

STRONTIUM – 89,90 (pCi/g) In Subsurface Geologic Materials

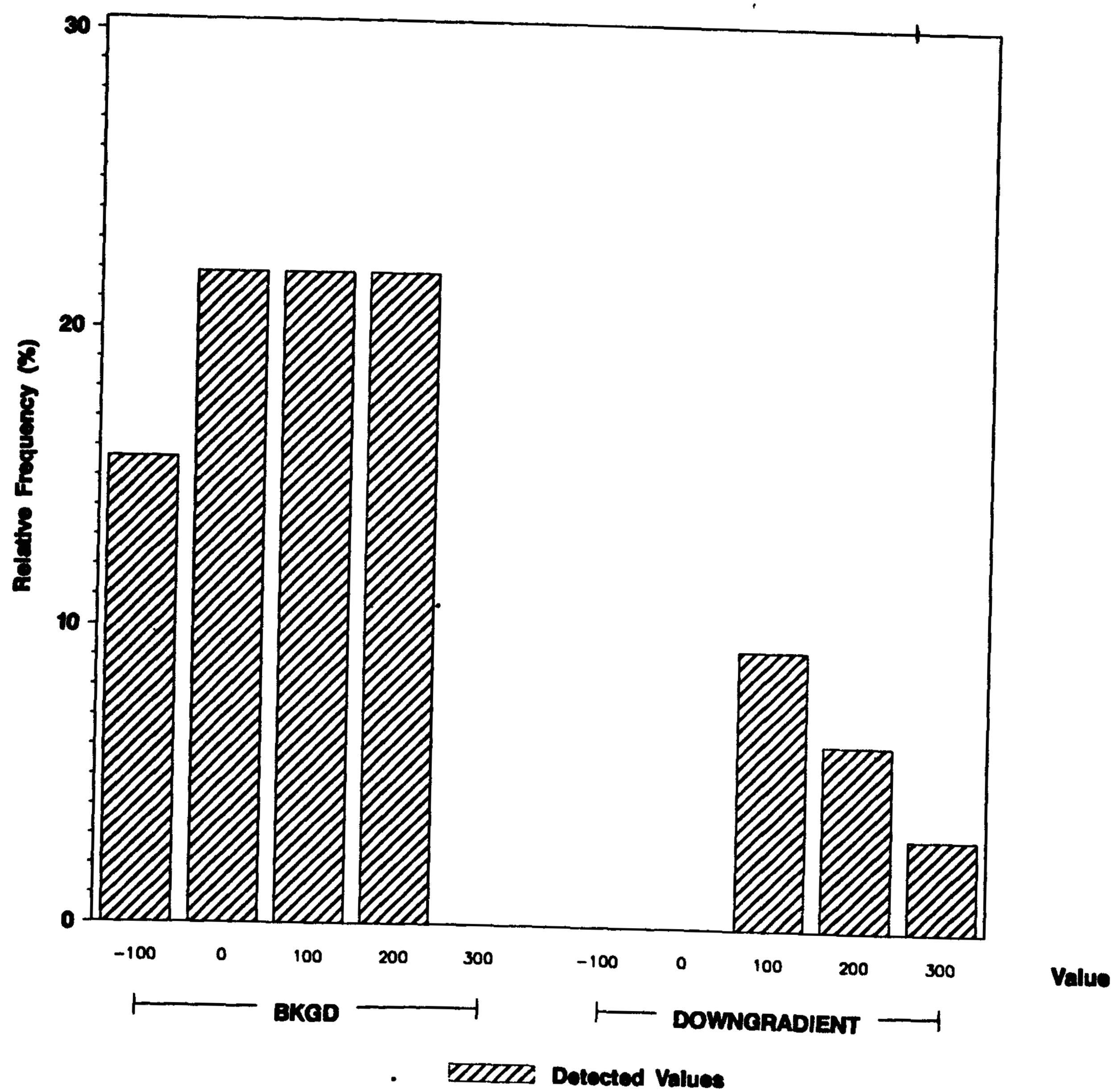
ANALYTE = STRONTIUM – 89,90



Background Qc vs Downgradient OU7 Qc Frequency Histogram

TRITIUM (pCi/L) in Subsurface Geologic Materials

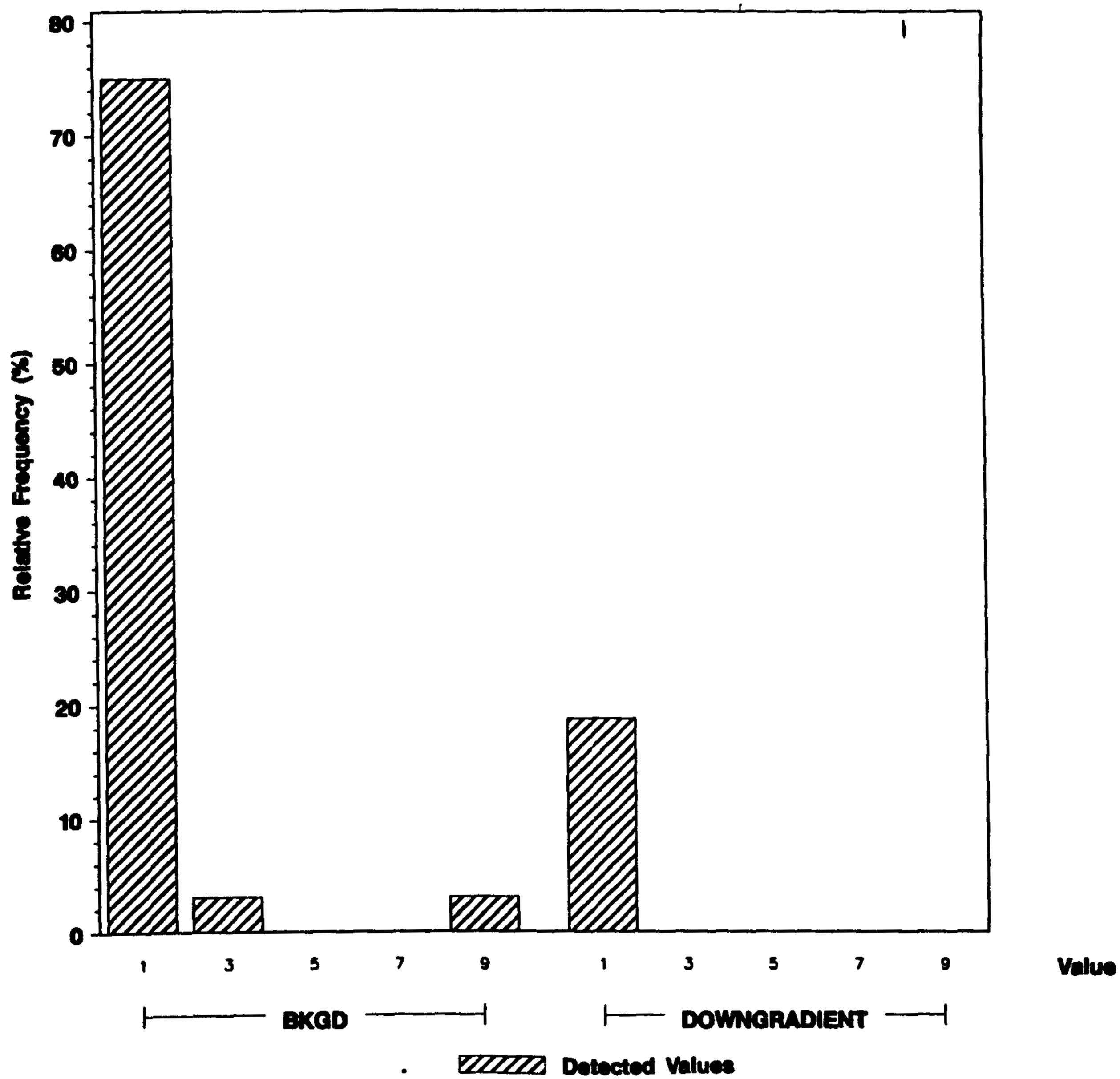
ANALYTE = TRITIUM



Background Qc vs Downgradient OU7 Qc Frequency Histogram

URANIUM-233,-234 (pCi/g) in Subsurface Geologic Materials

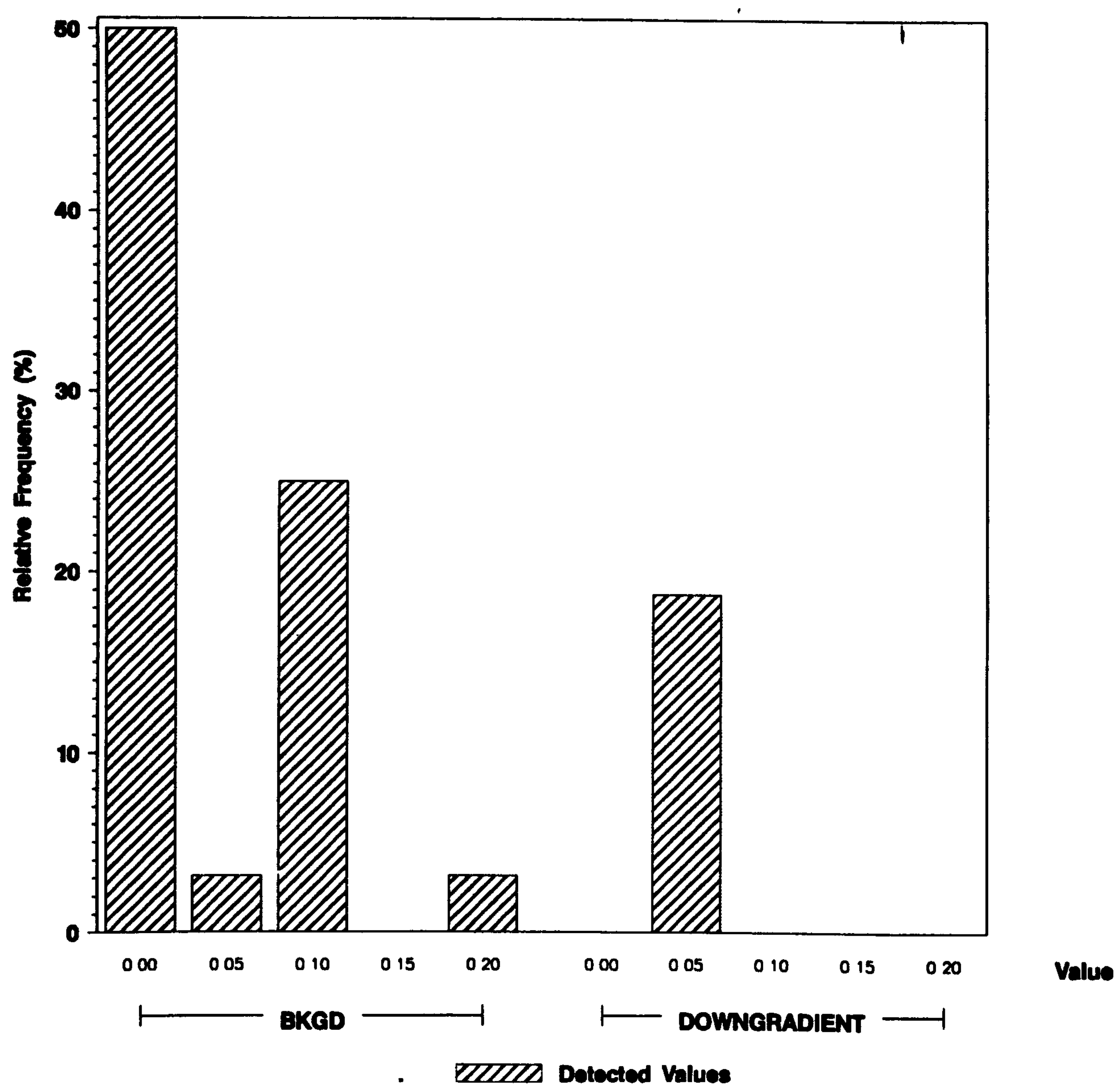
ANALYTE=URANIUM-233,-234



Background Qc vs Downgradient OU7 Qc Frequency Histogram

URANIUM-235 (pCi/g) in Subsurface Geologic Materials

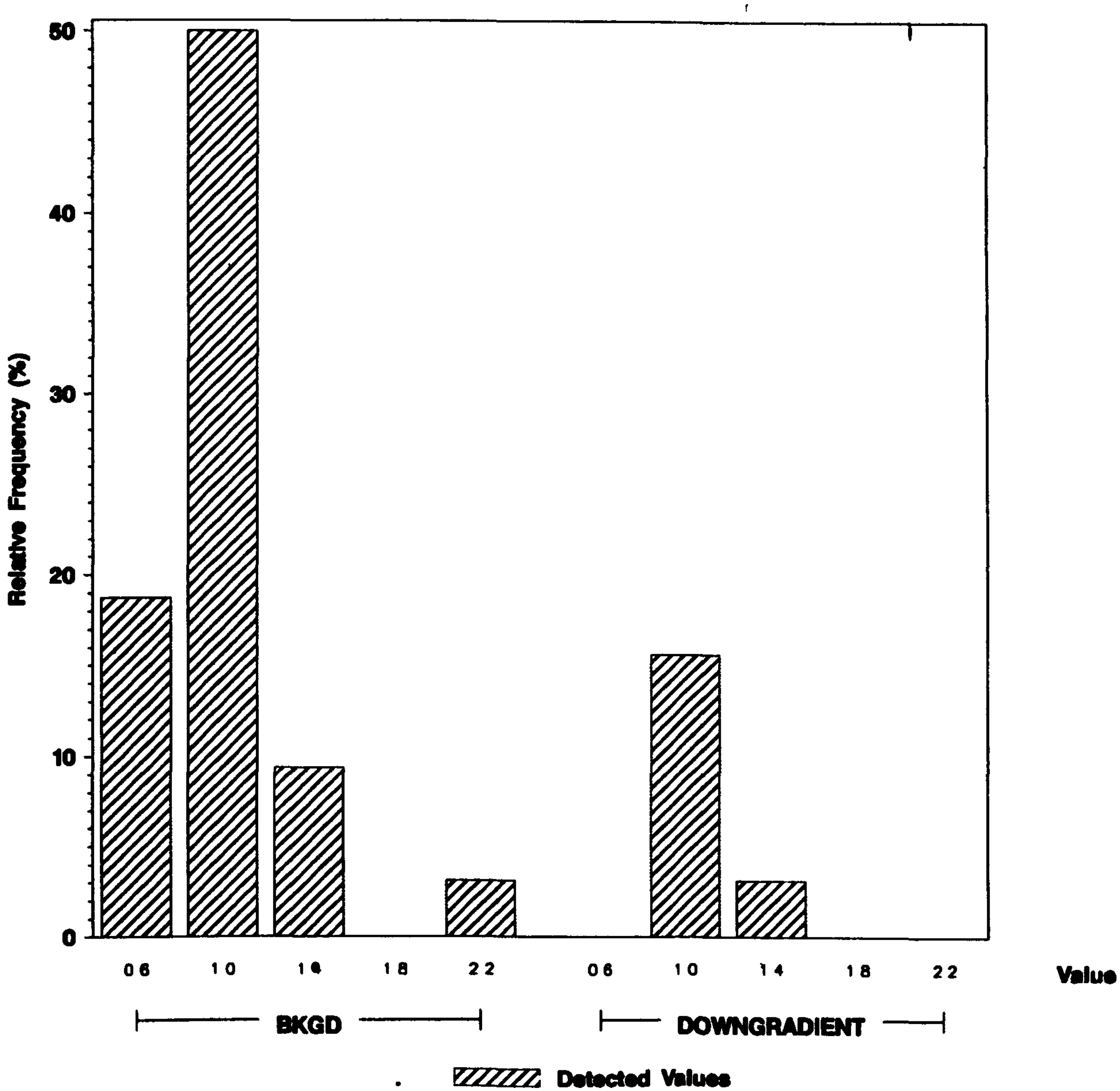
ANALYTE=URANIUM-235



Background Qc vs Downgradient OU7 Qc Frequency Histogram

URANIUM-238 (pCi/g) in Subsurface Geologic Materials

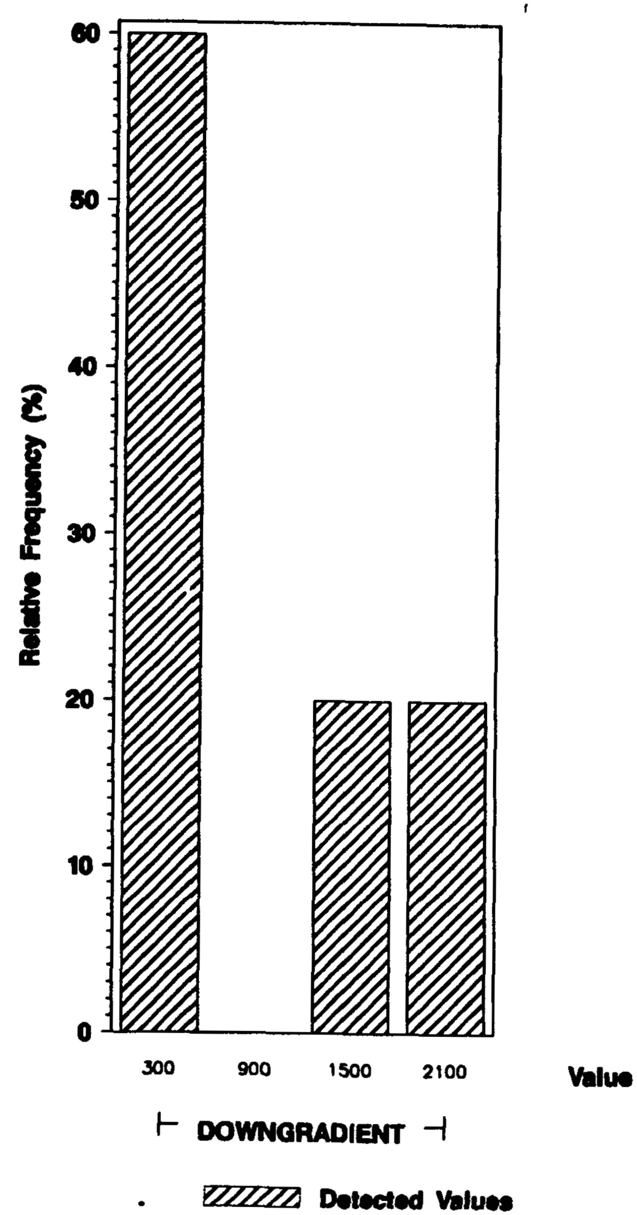
ANALYTE=URANIUM-238



Background Qc vs Downgradient OU7 Qc Frequency Histogram

TOLUENE (ug/Kg) In Subsurface Geologic Materials

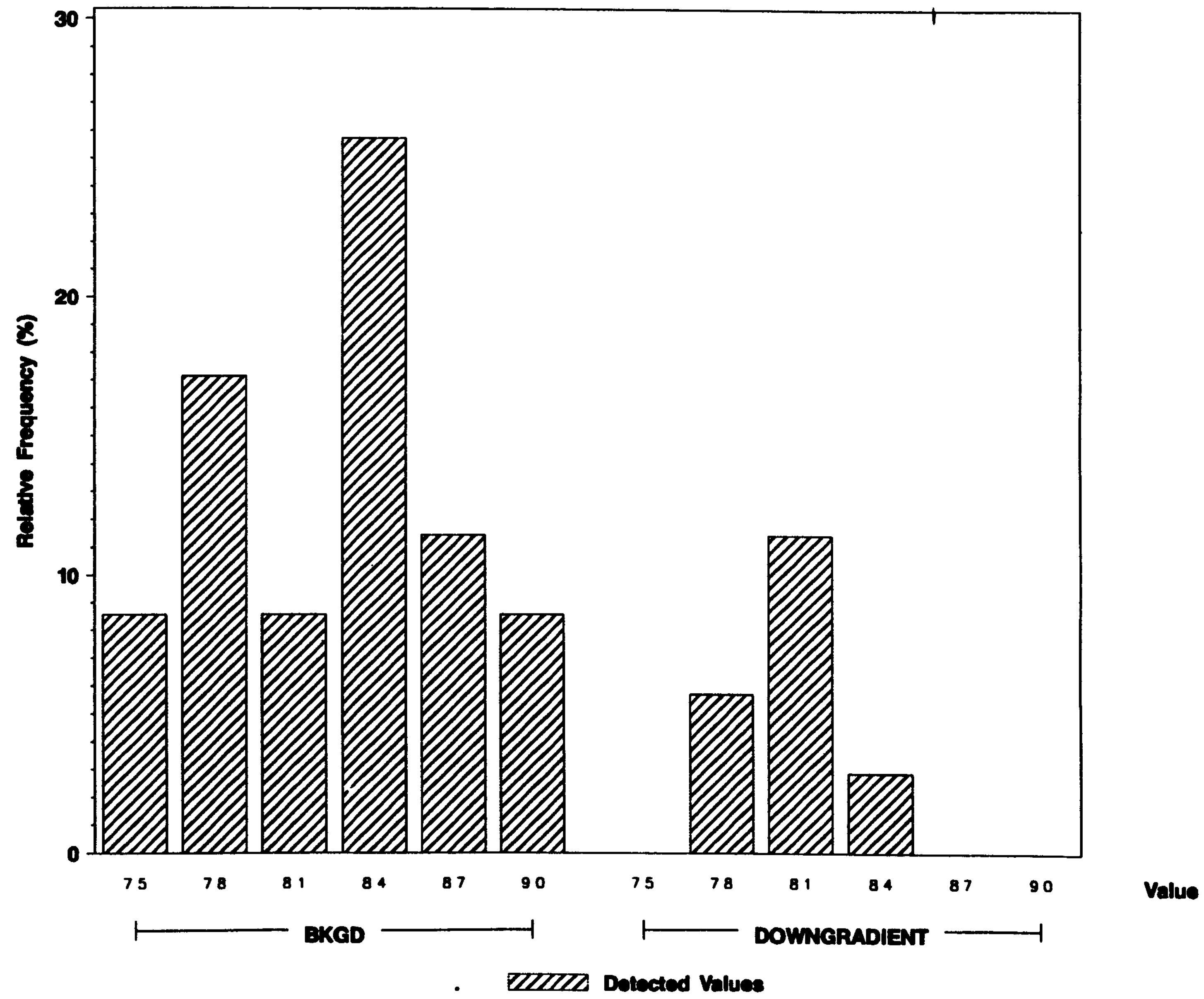
ANALYTE = TOLUENE



Background Qc vs Downgradient OU7 Qc Frequency Histogram

pH in Subsurface Geologic Materials

ANALYTE=pH



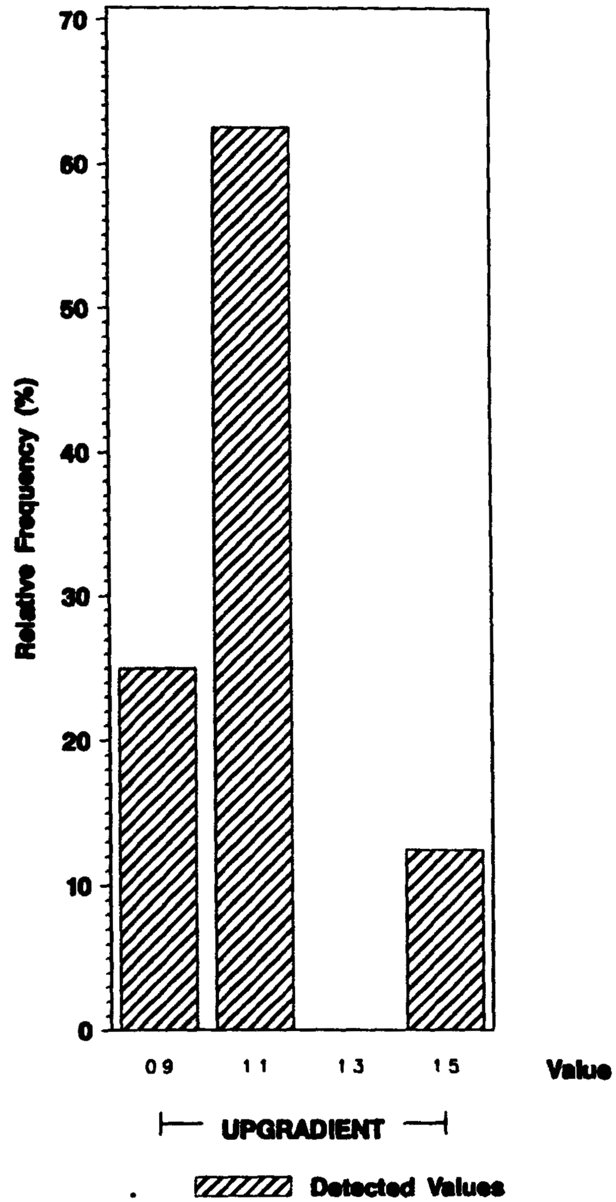
Subsurface Geologic Materials

Background vs. OU 7 Upgradient KaKl(w)

Background KaKI – w vs OU7 KaKI – w Frequency Histogram

URANIUM – 238 (pCi/g) In Subsurface Geologic Materials

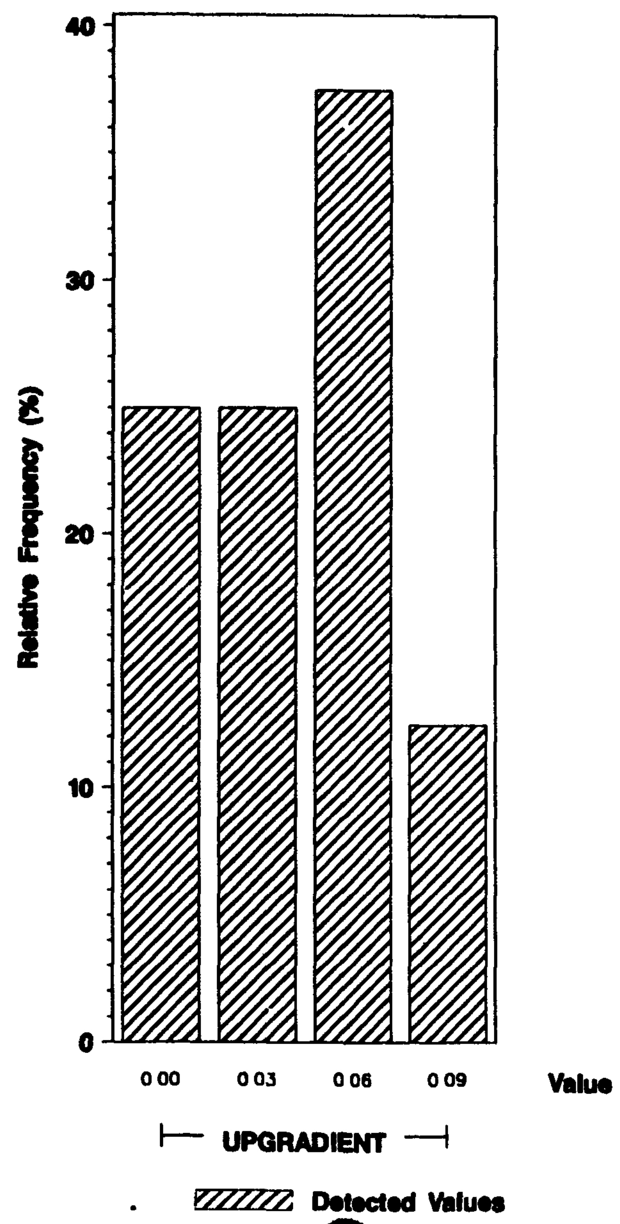
ANALYTE = URANIUM – 238



Background KaKl-w vs OU7 KaKl-w Frequency Histogram

URANIUM-235 (pCi/g) in Subsurface Geologic Materials

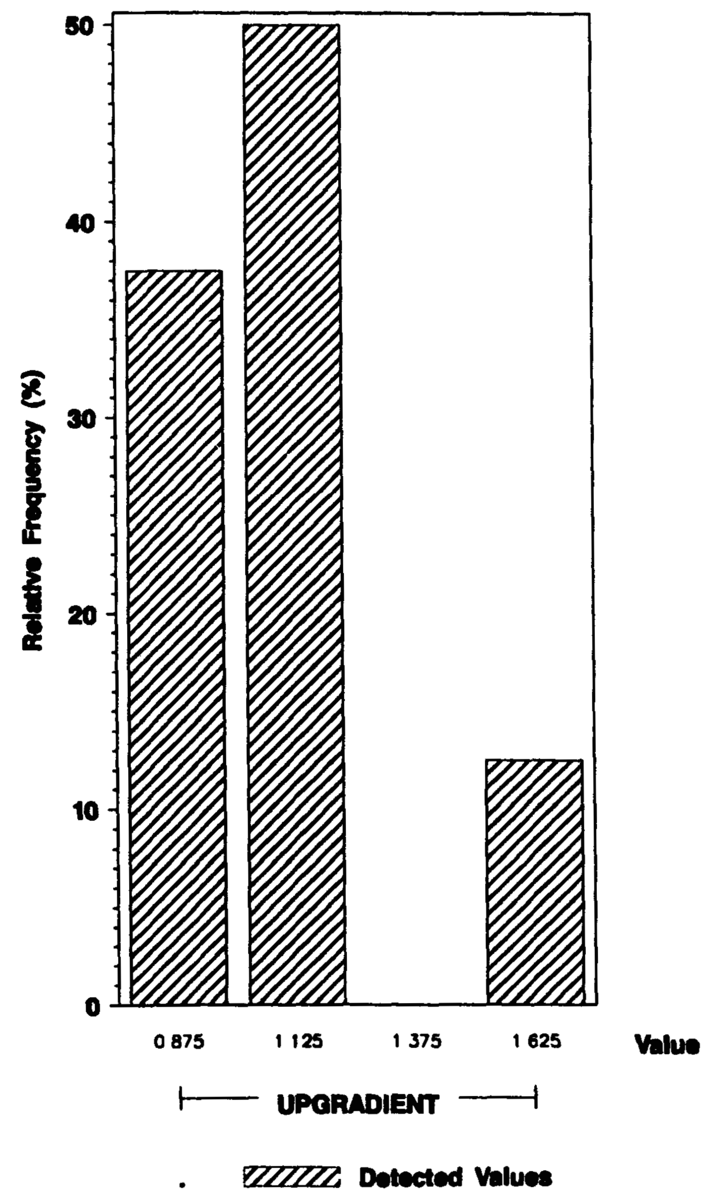
ANALYTE=URANIUM-235



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

URANIUM – 233, – 234 (pCi/g) In Subsurface Geologic Materials

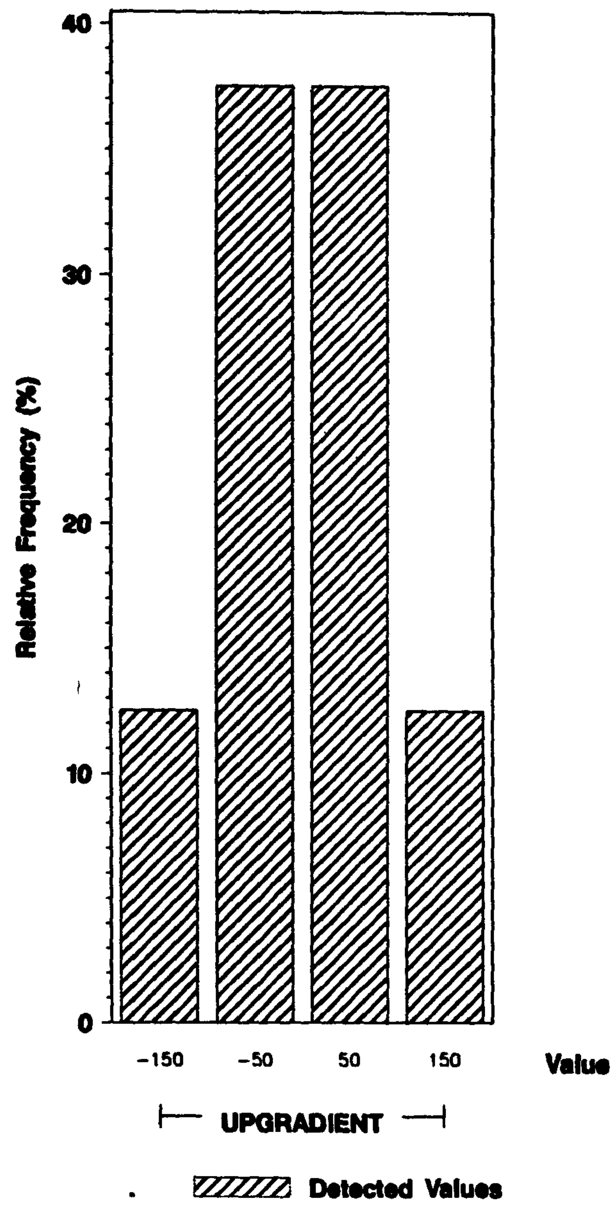
ANALYTE = URANIUM – 233, – 234



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

TRITIUM (pCi/L) in Subsurface Geologic Materials

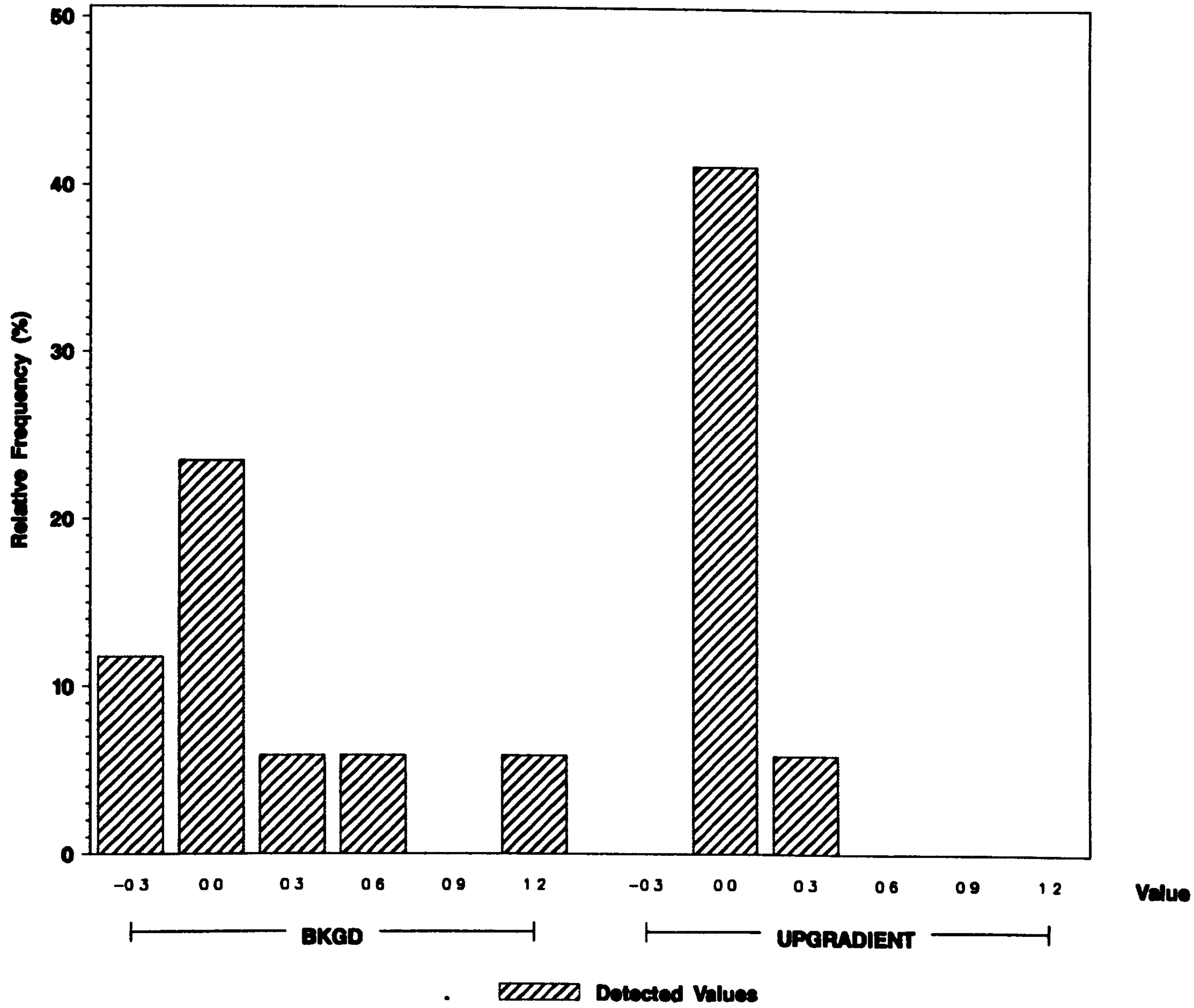
ANALYTE = TRITIUM



Background KaKI-w vs OU7 KaKI-w Frequency Histogram

STRONTIUM-89,90 (pCi/g) In Subsurface Geologic Materials

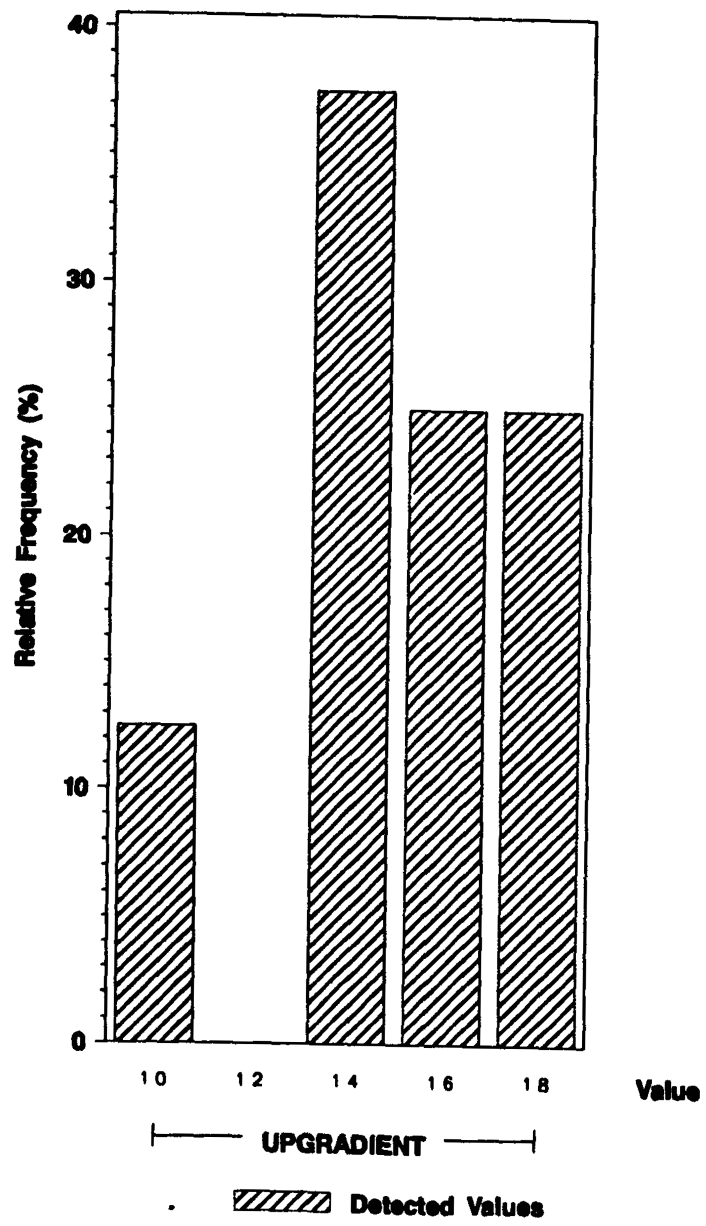
ANALYTE=STRONTIUM-89,90



Background KaKI – w vs OU7 KaKI – w Frequency Histogram

RADIUM – 228 (pCi/g) In Subsurface Geologic Materials

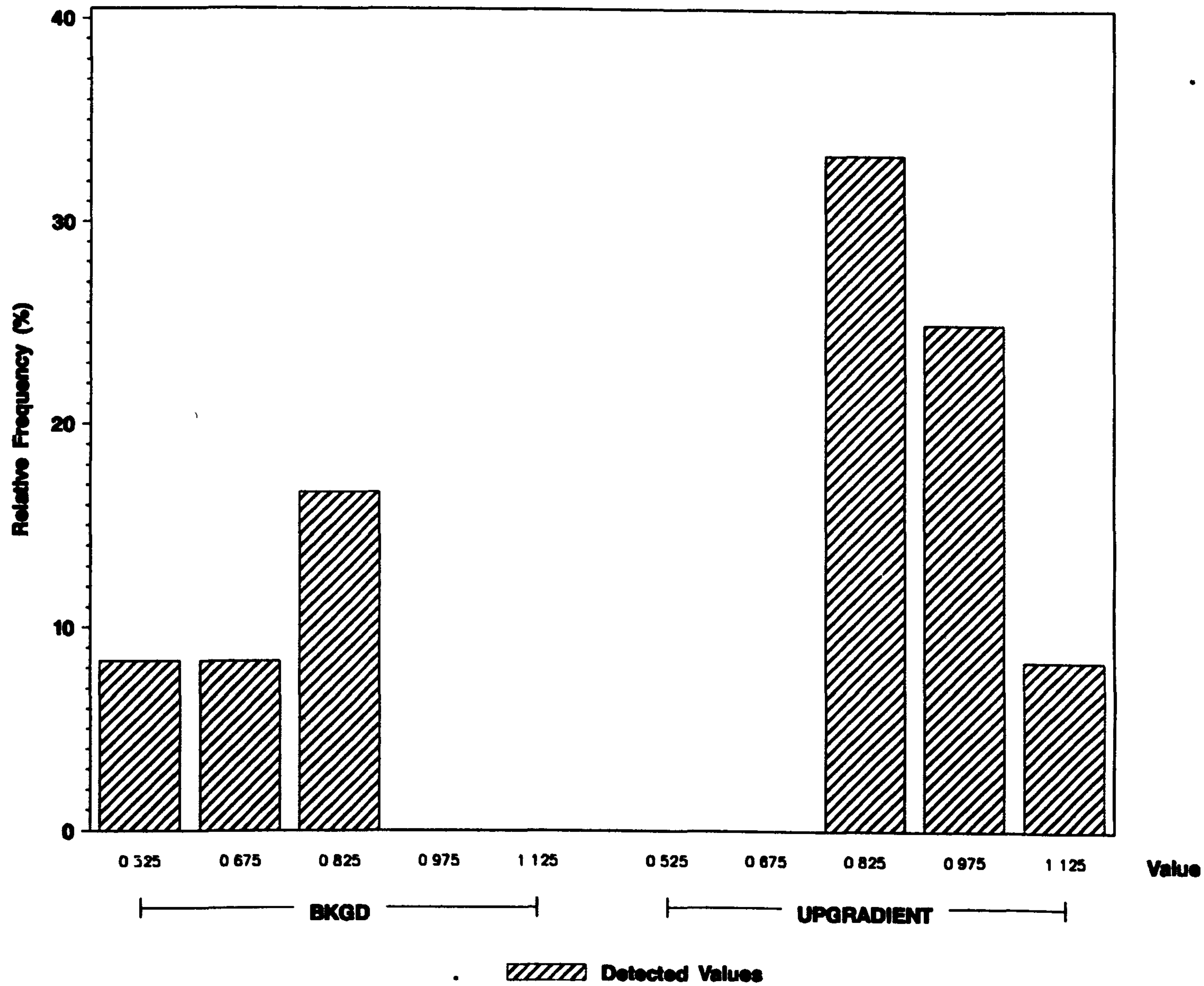
ANALYTE = RADIUM – 228



Background KaKI-w vs OU7 KaKI-w Frequency Histogram

RADIUM-226 (pCi/g) in Subsurface Geologic Materials

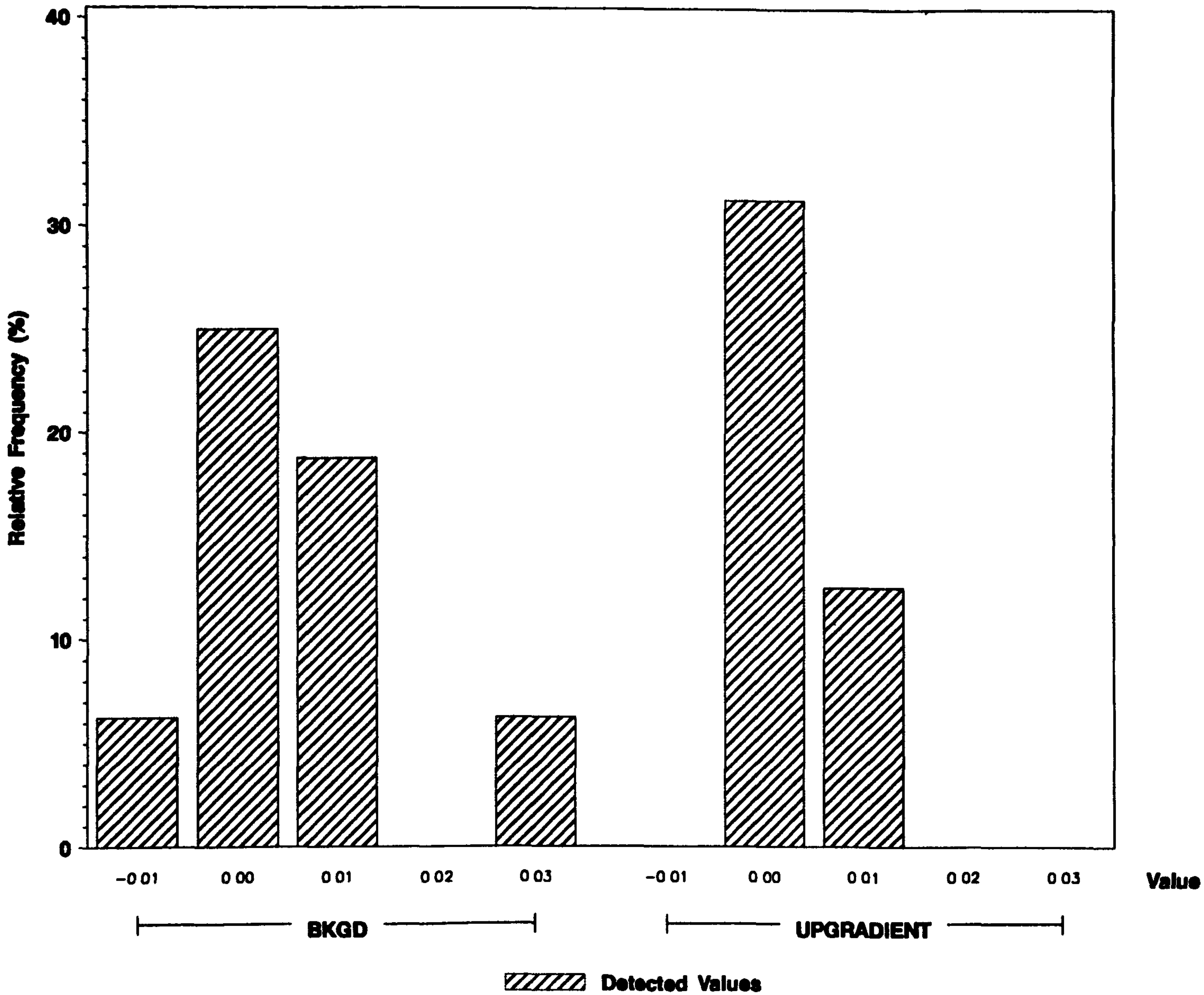
ANALYTE=RADIUM-226



Background KaKl-w vs OU7 KaKl-w Frequency Histogram

PLUTONIUM-239,240 (pCi/g) in Subsurface Geologic Materials

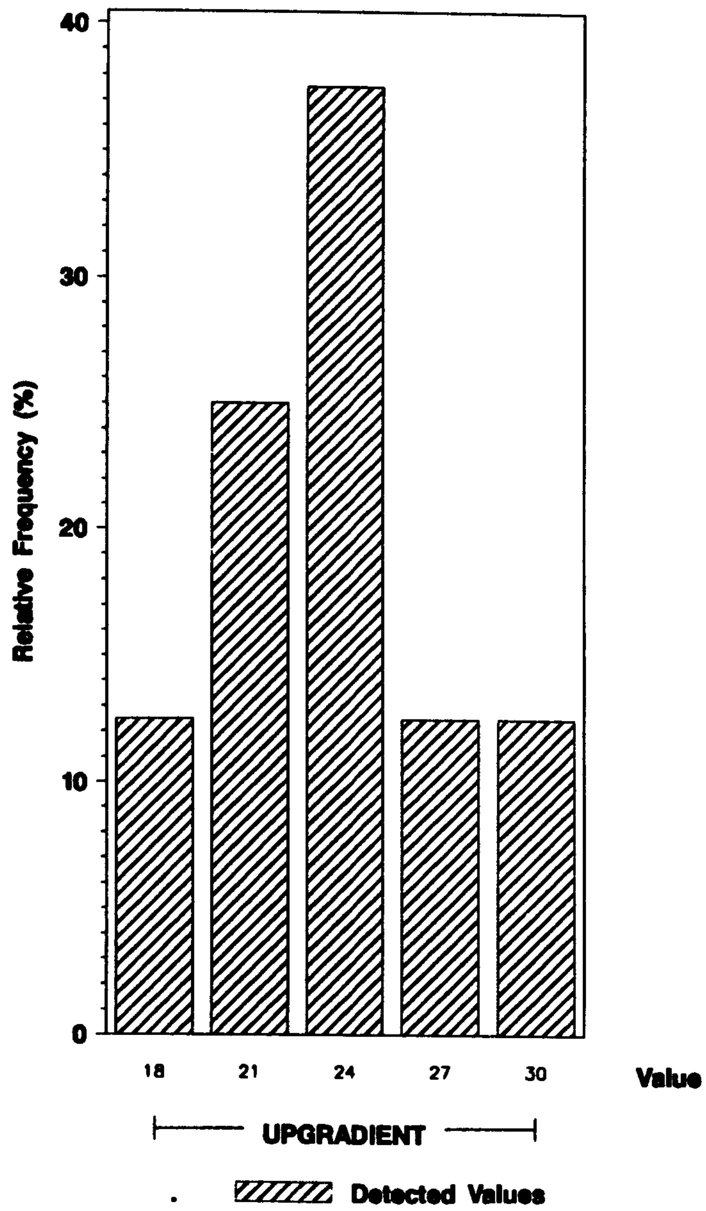
ANALYTE=PLUTONIUM-239,240



Background KaKI – w vs OU7 KaKI – w Frequency Histogram

GROSS BETA (pCi/g) In Subsurface Geologic Materials

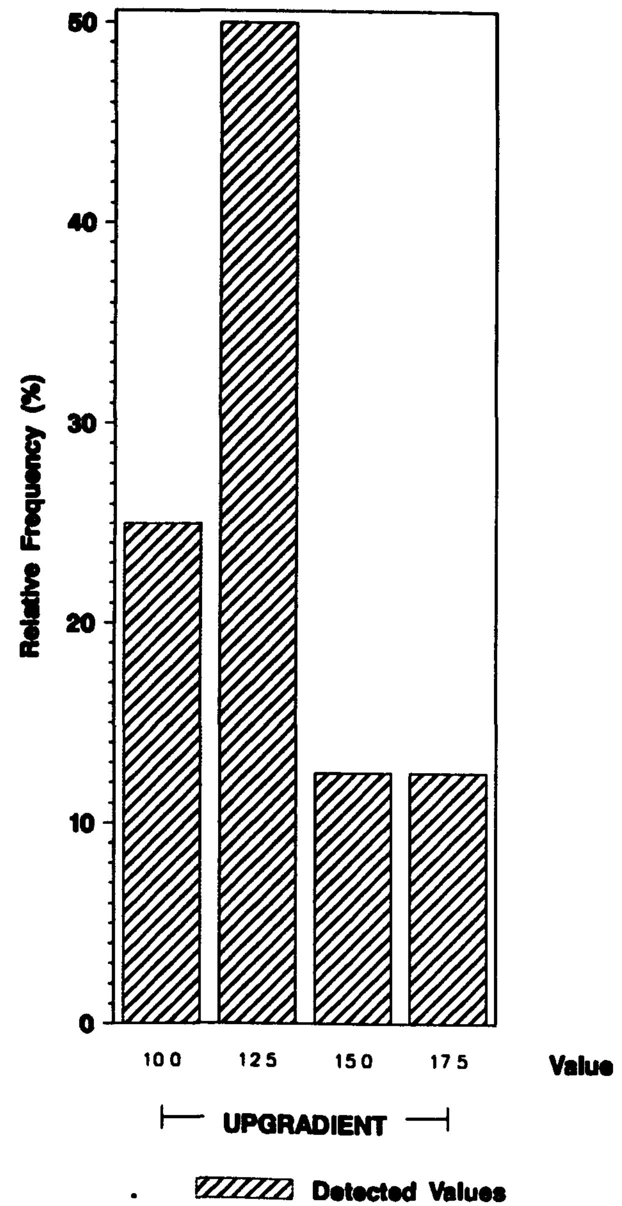
ANALYTE=GROSS BETA



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

GROSS ALPHA (pCi/g) in Subsurface Geologic Materials

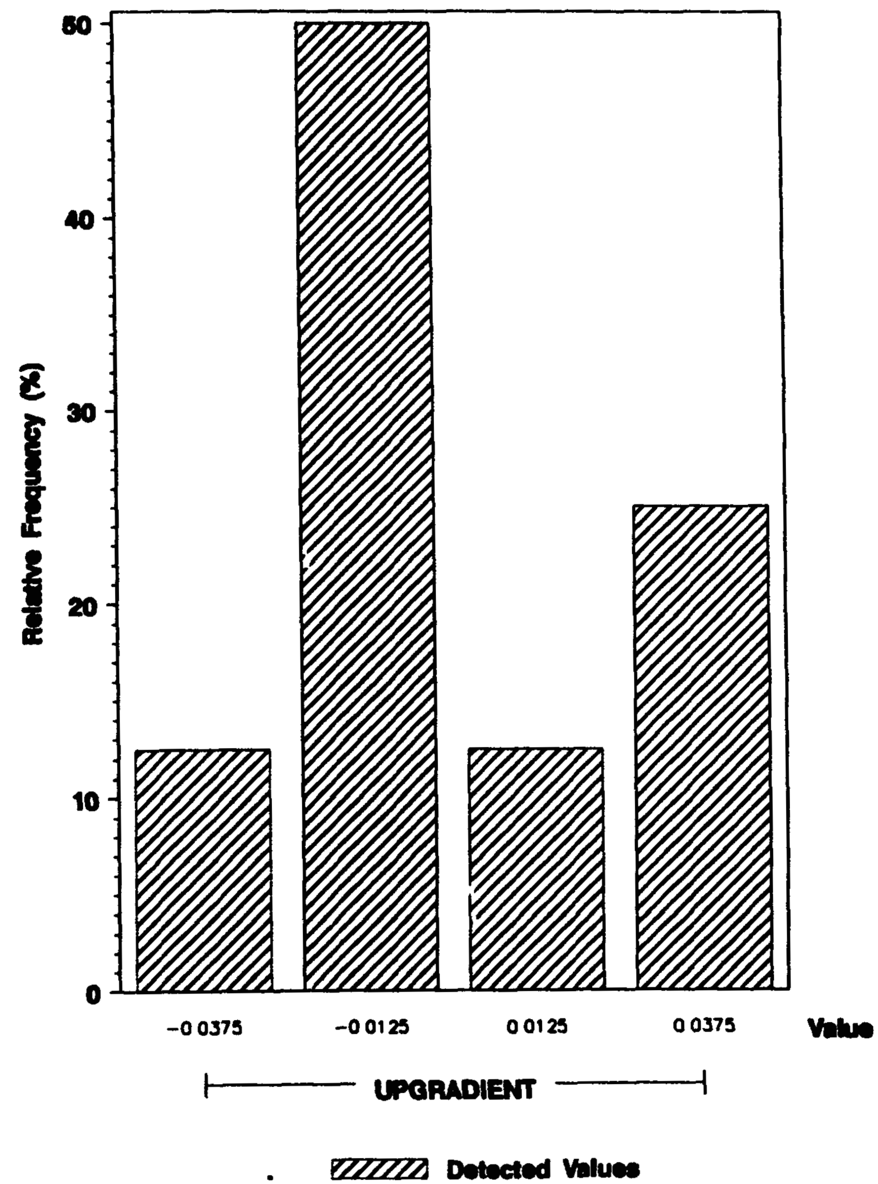
ANALYTE = GROSS ALPHA



Background KaKI – w vs OU7 KaKI – w Frequency Histogram

CESIUM – 137 (pCi/g) in Subsurface Geologic Materials

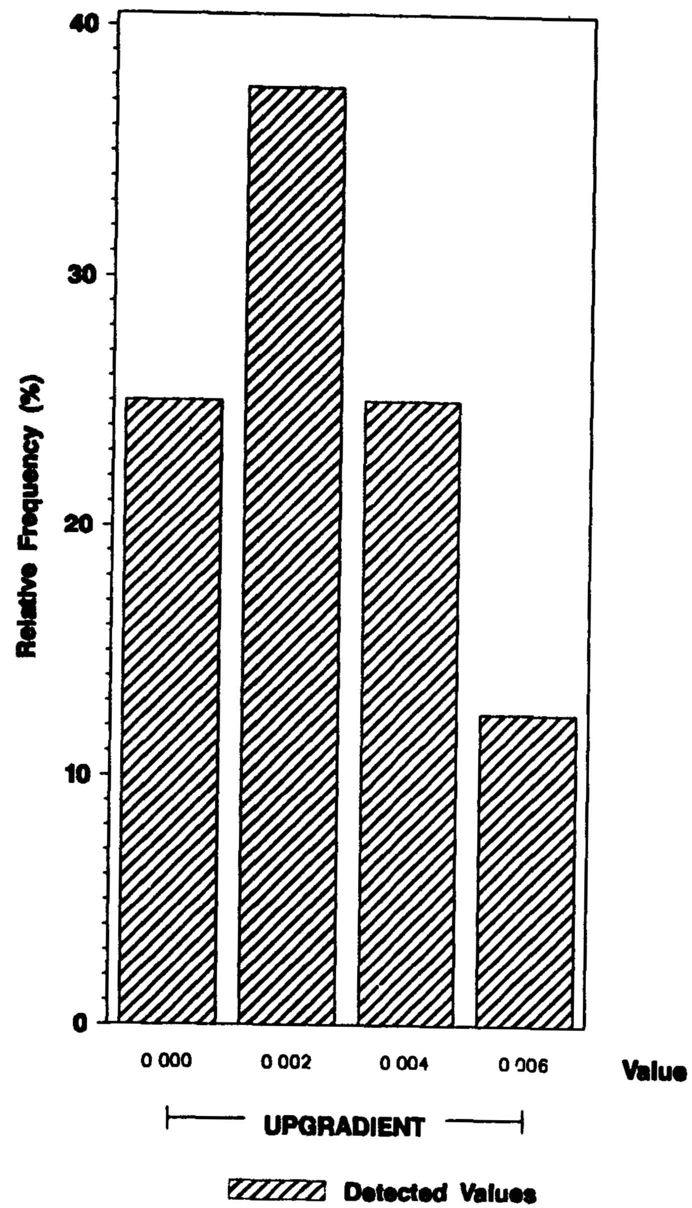
ANALYTE = CESIUM – 137



Background KaKl−w vs OU7 KaKl−w Frequency Histogram

AMERICIUM−241 (pCi/g) in Subsurface Geologic Materials

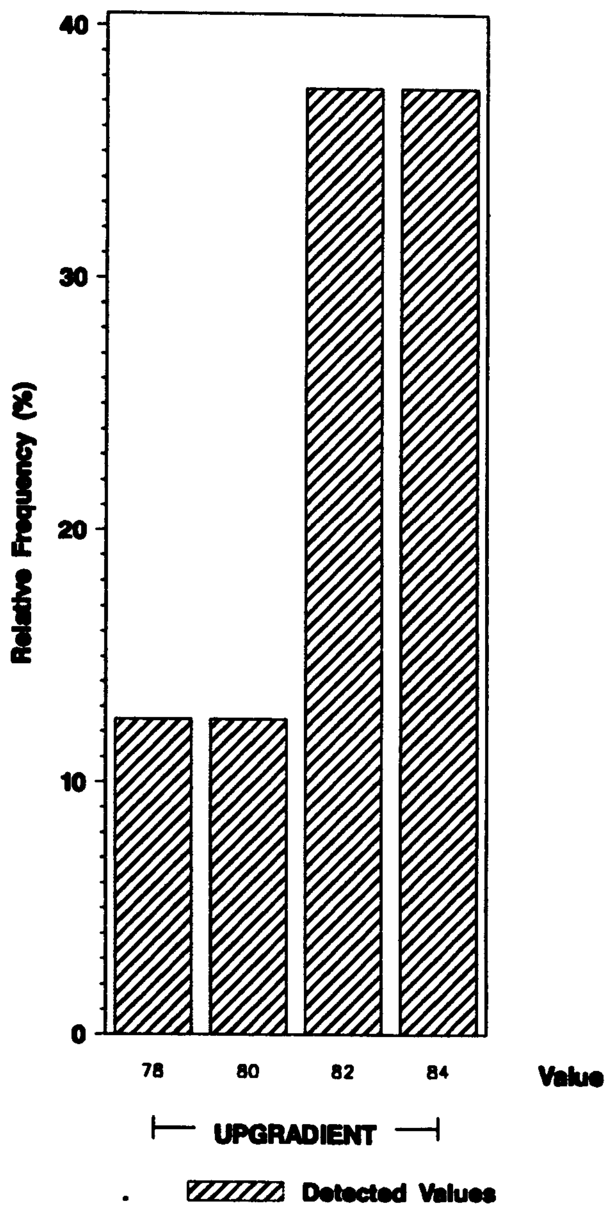
ANALYTE=AMERICIUM−241



Background KaKI – w vs OU7 KaKI – w Frequency Histogram

% SOLIDS (%) In Subsurface Geologic Materials

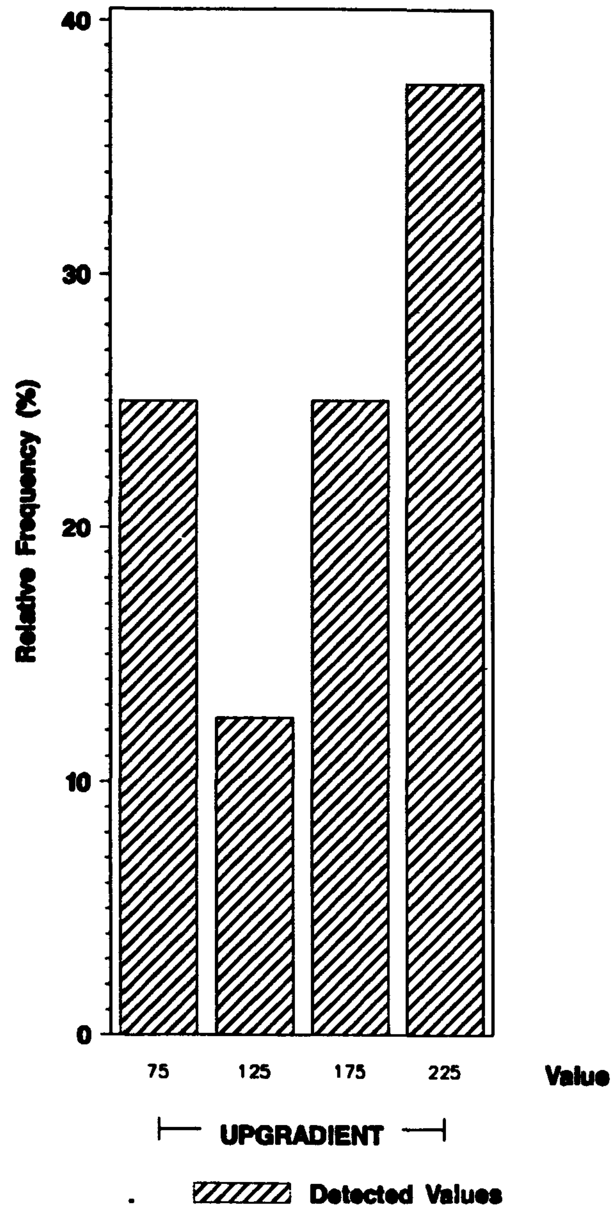
ANALYTE=% SOLIDS



Background KaKl–w vs OU7 KaKl–w Frequency Histogram

TOLUENE (ug/Kg) in Subsurface Geologic Materials

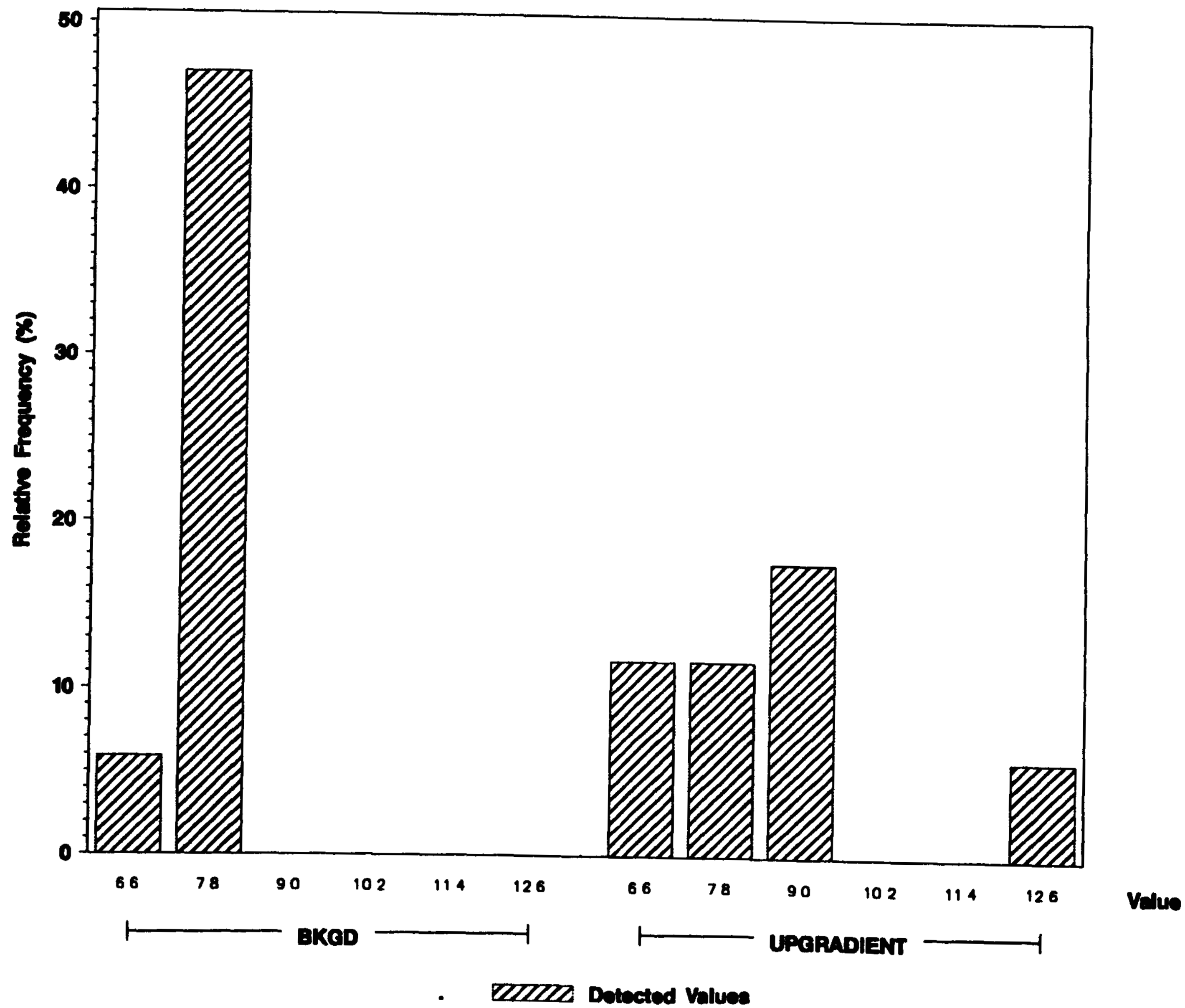
ANALYTE=TOLUENE



Background KaKI-w vs OU7 KaKI-w Frequency Histogram

pH in Subsurface Geologic Materials

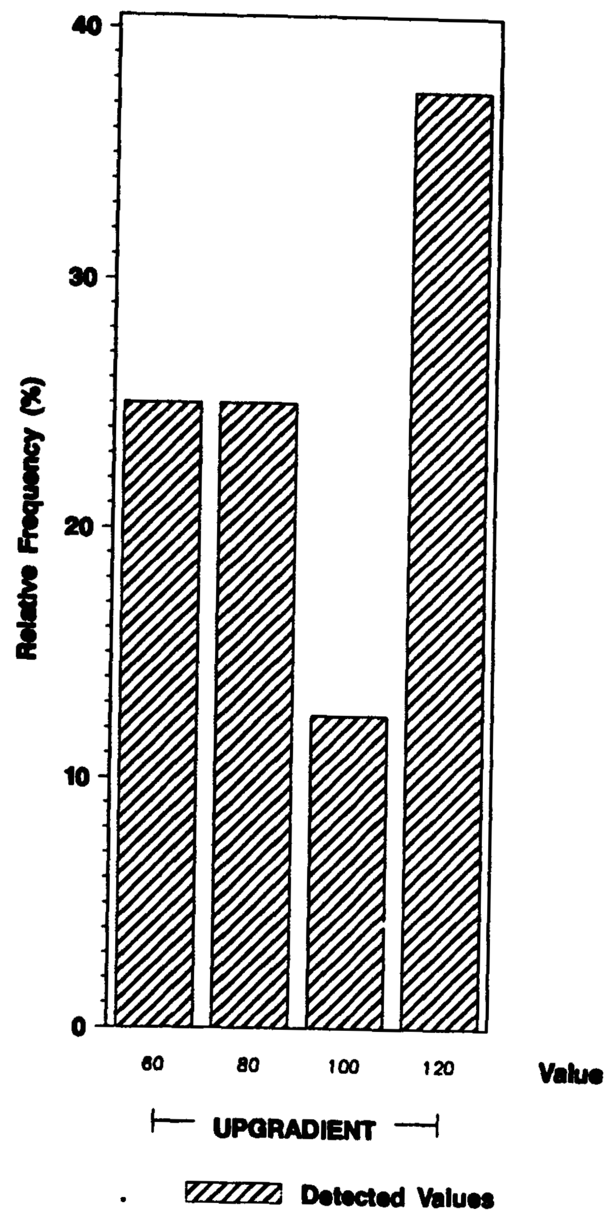
ANALYTE=pH



Background KaKl−w vs OU7 KaKl−w Frequency Histogram

SODIUM (mg\Kg) In Subsurface Geologic Materials

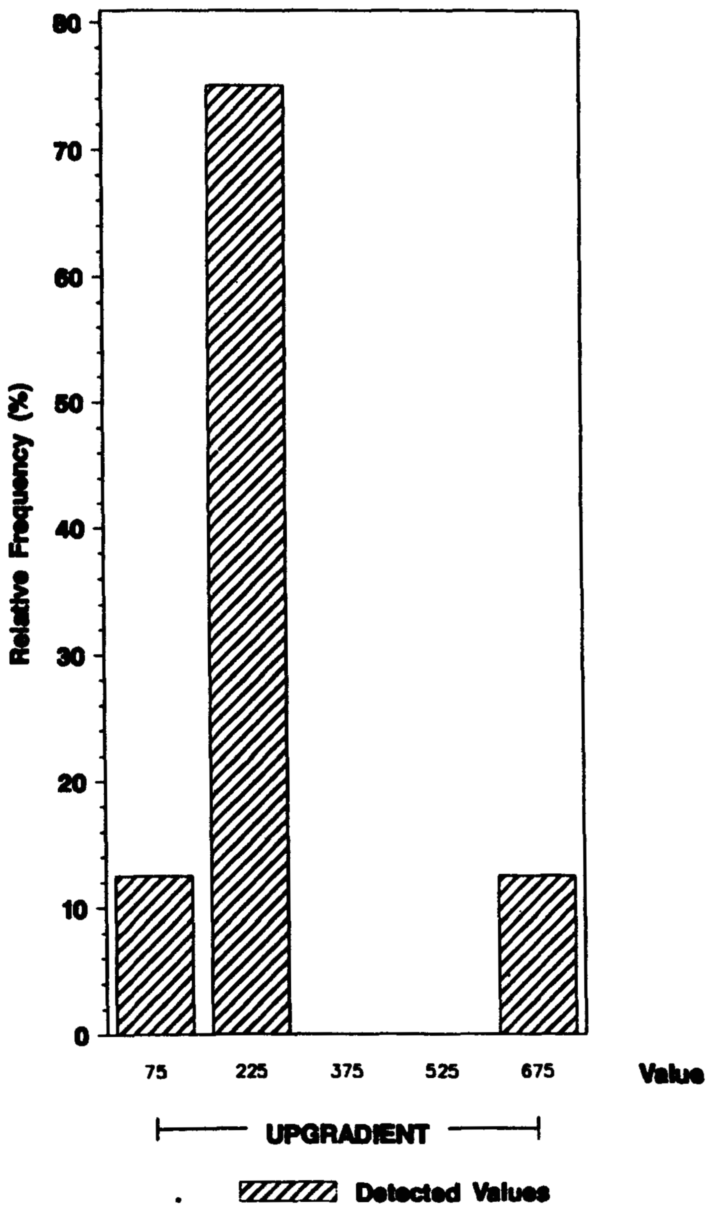
ANALYTE=SODIUM



Background KaKI – w vs OU7 KaKI – w Frequency Histogram

SILICON (mg\Kg) in Subsurface Geologic Materials

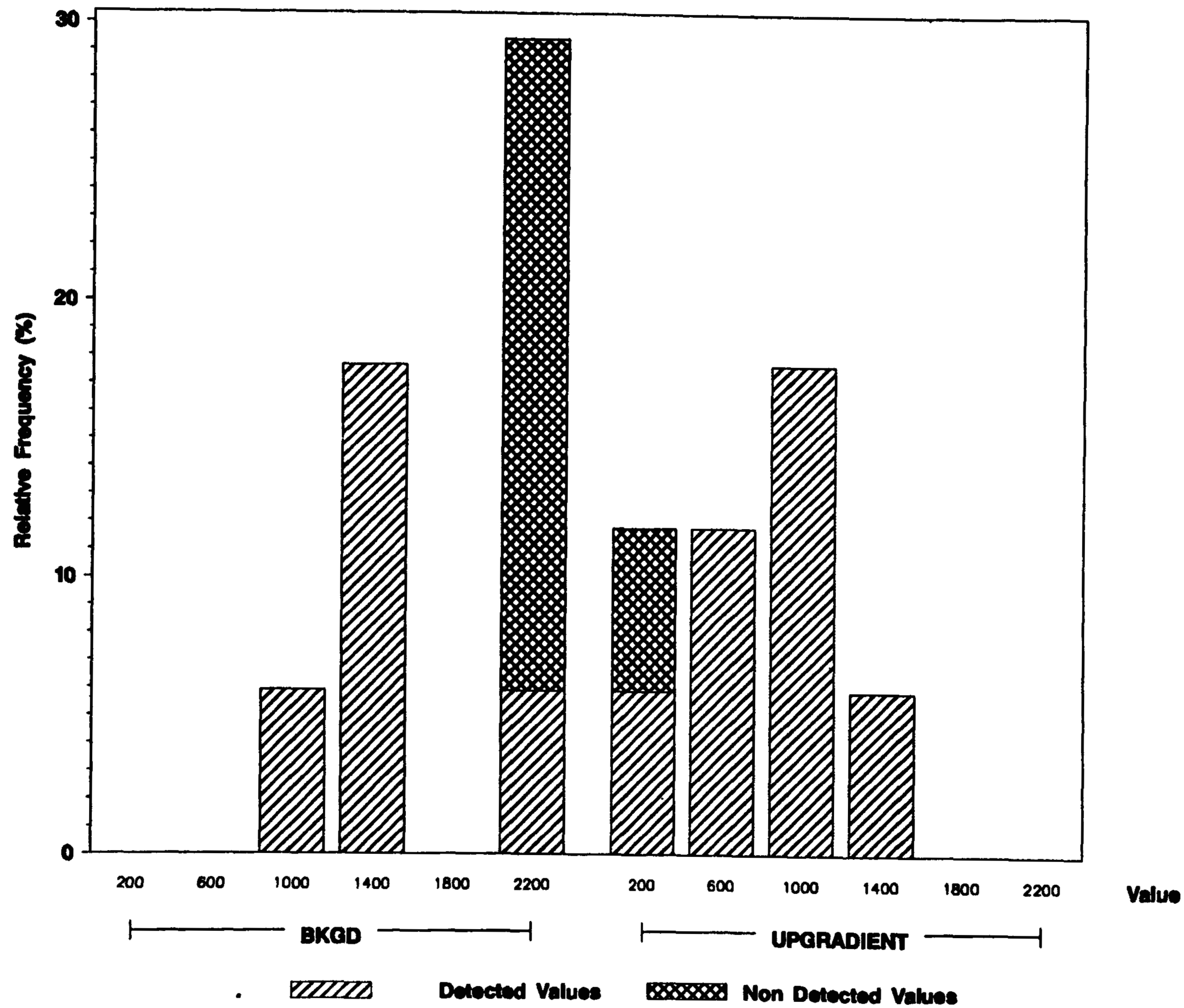
ANALYTE = SILICON



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

POTASSIUM (mg\Kg) In Subsurface Geologic Materials

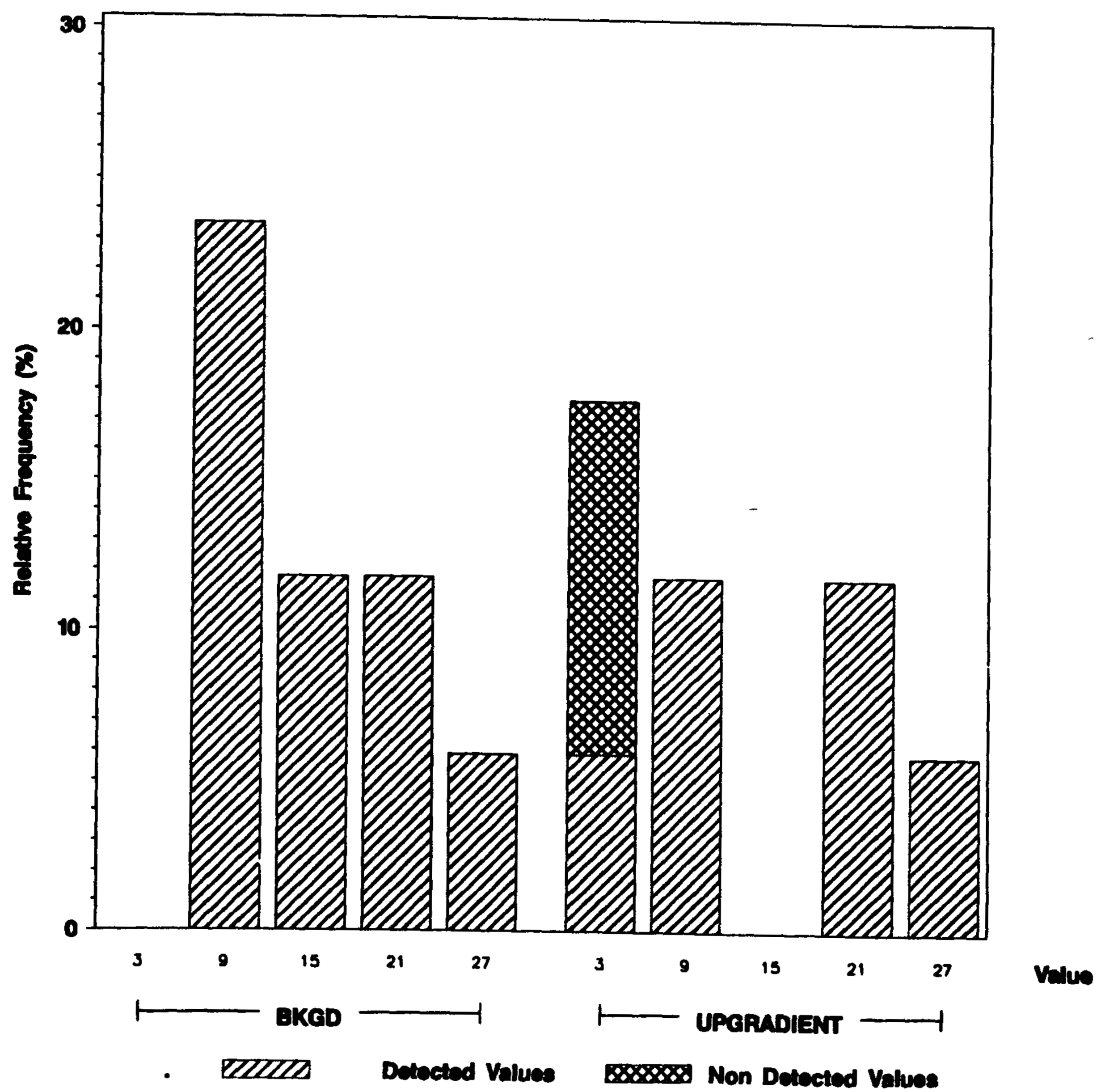
ANALYTE = POTASSIUM



Background KaKI – w vs OU7 KaKI – w Frequency Histogram

NICKEL (mg\Kg) In Subsurface Geologic Materials

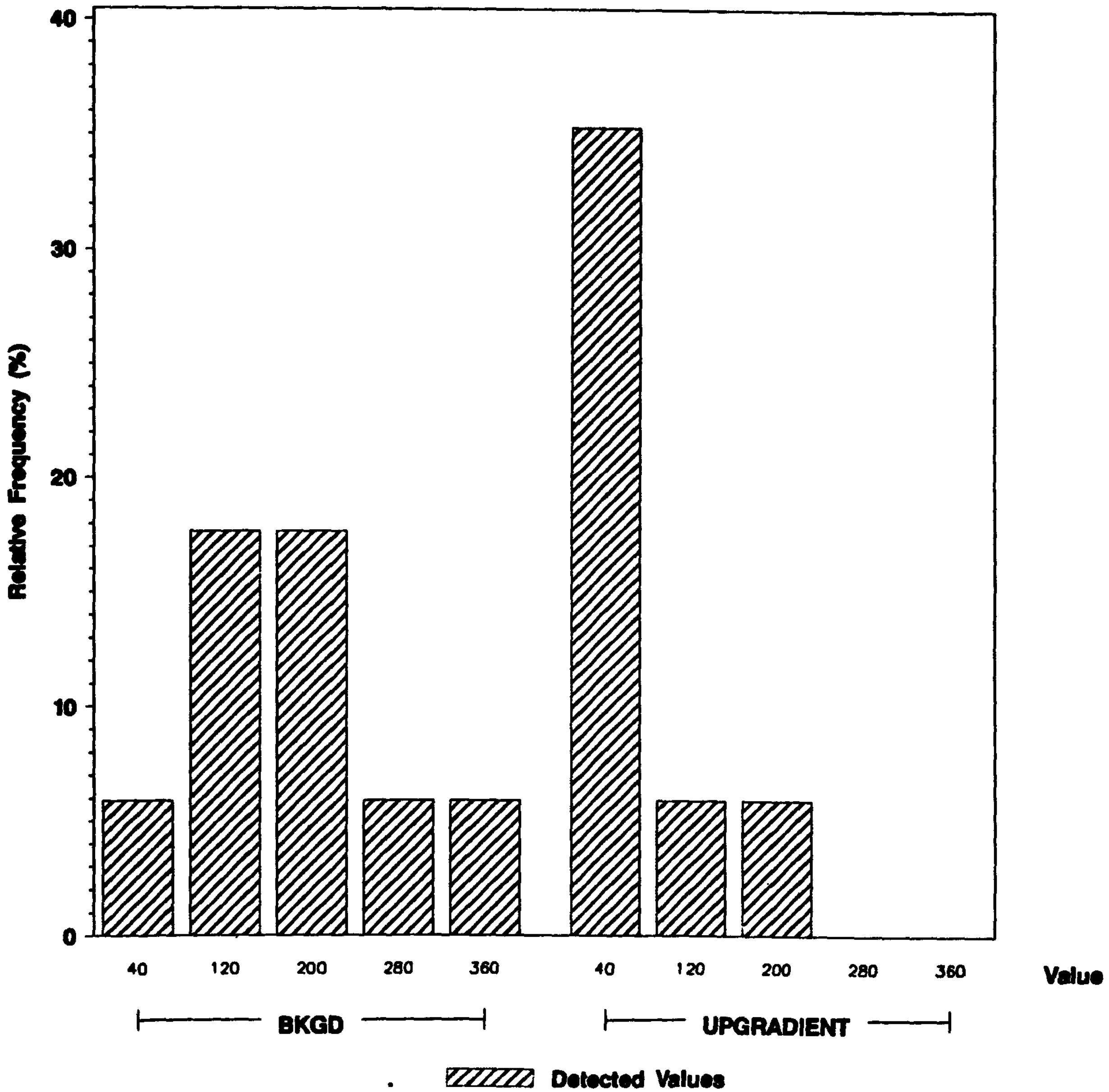
ANALYTE=NICKEL



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

MANGANESE (mg\Kg) In Subsurface Geologic Materials

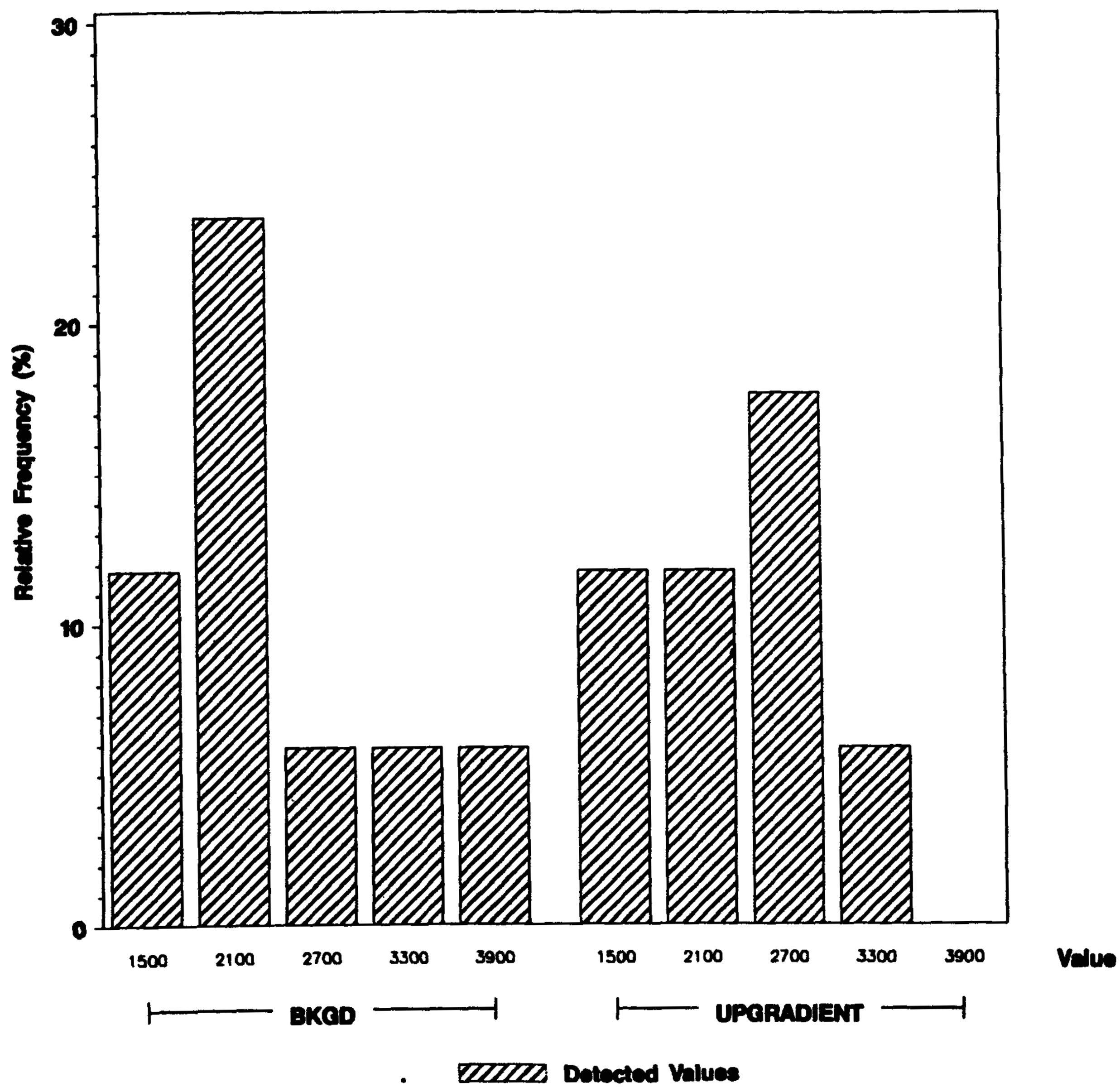
ANALYTE = MANGANESE



Background KaKI-w vs OU7 KaKI-w Frequency Histogram

MAGNESIUM (mg\Kg) In Subsurface Geologic Materials

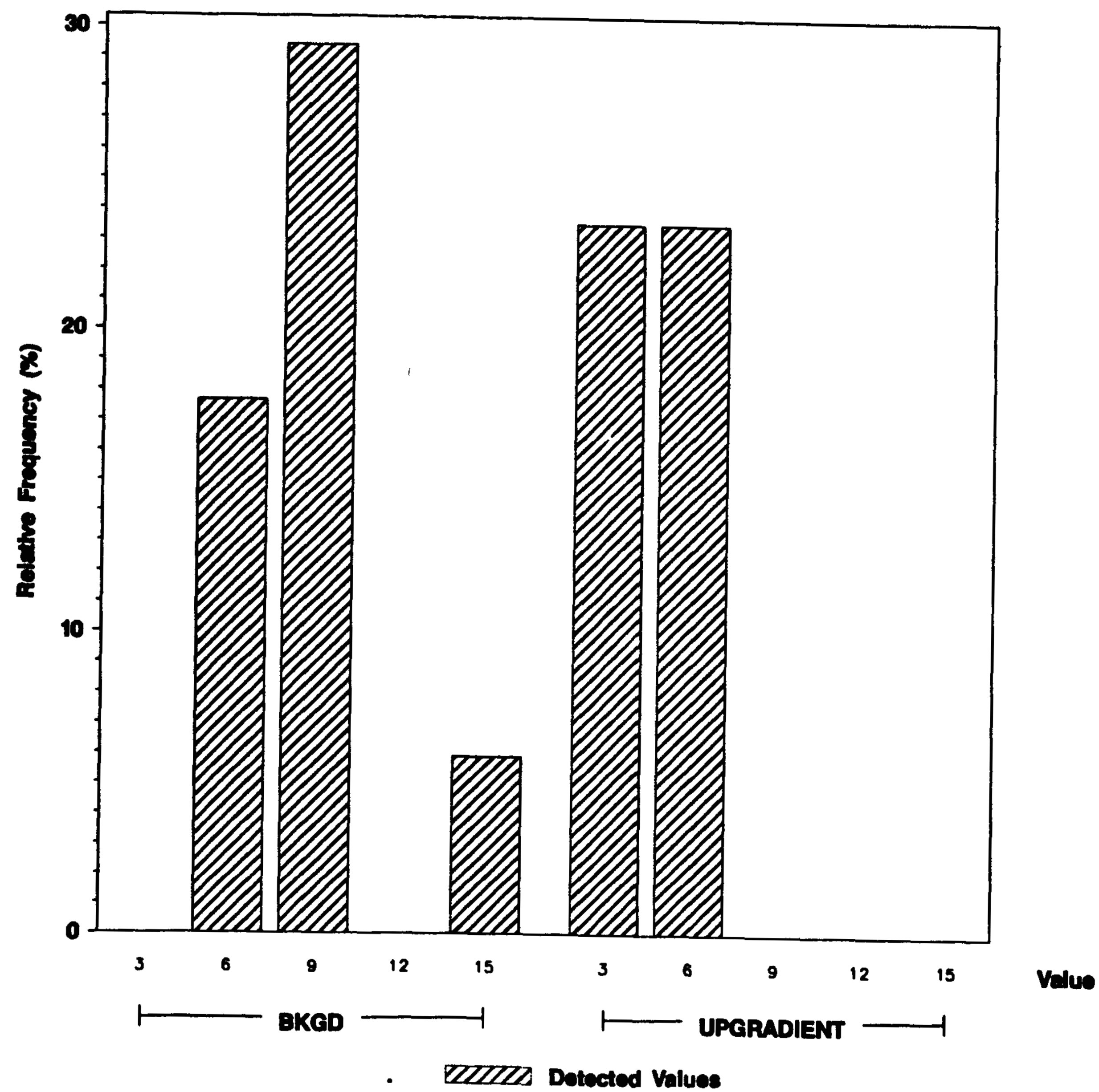
ANALYTE=MAGNESIUM



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

LITHIUM (mg\Kg) in Subsurface Geologic Materials

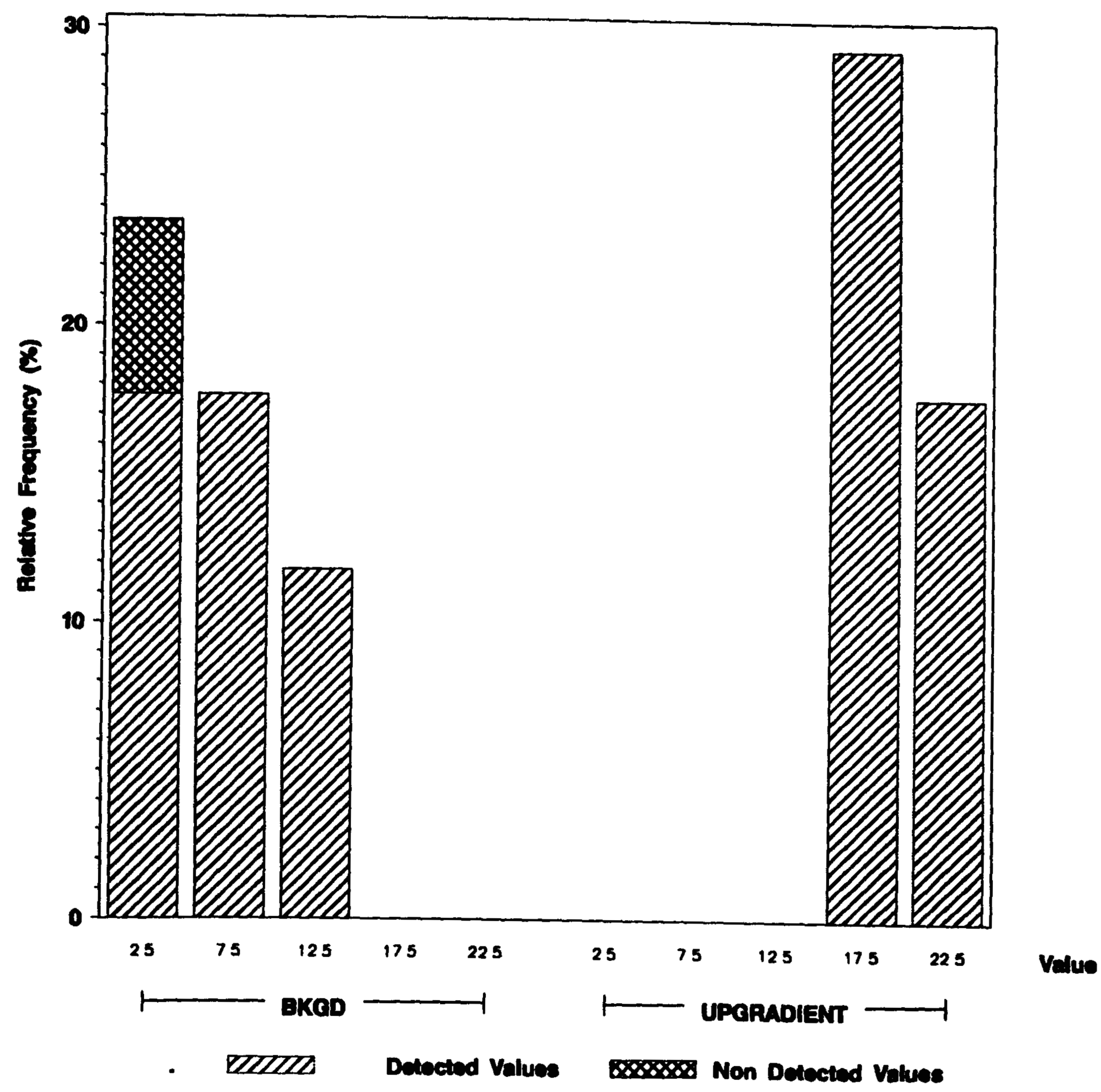
ANALYTE = LITHIUM



Background KaKI – w vs OU7 KaKI – w Frequency Histogram

LEAD (mg\Kg) In Subsurface Geologic Materials

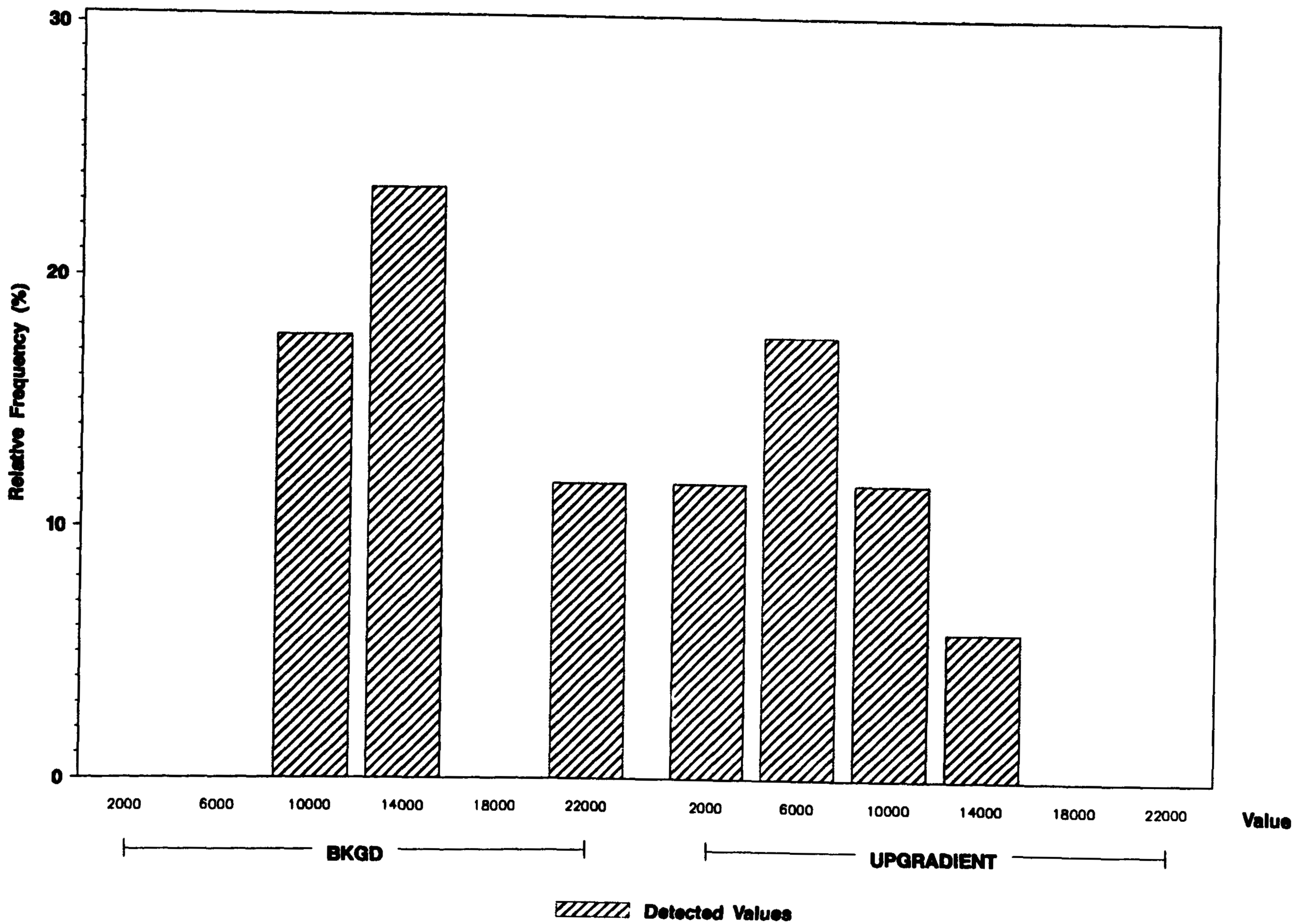
ANALYTE = LEAD



Background KaKl-w vs OU7 KaKl-w Frequency Histogram

IRON (mg\Kg) in Subsurface Geologic Materials

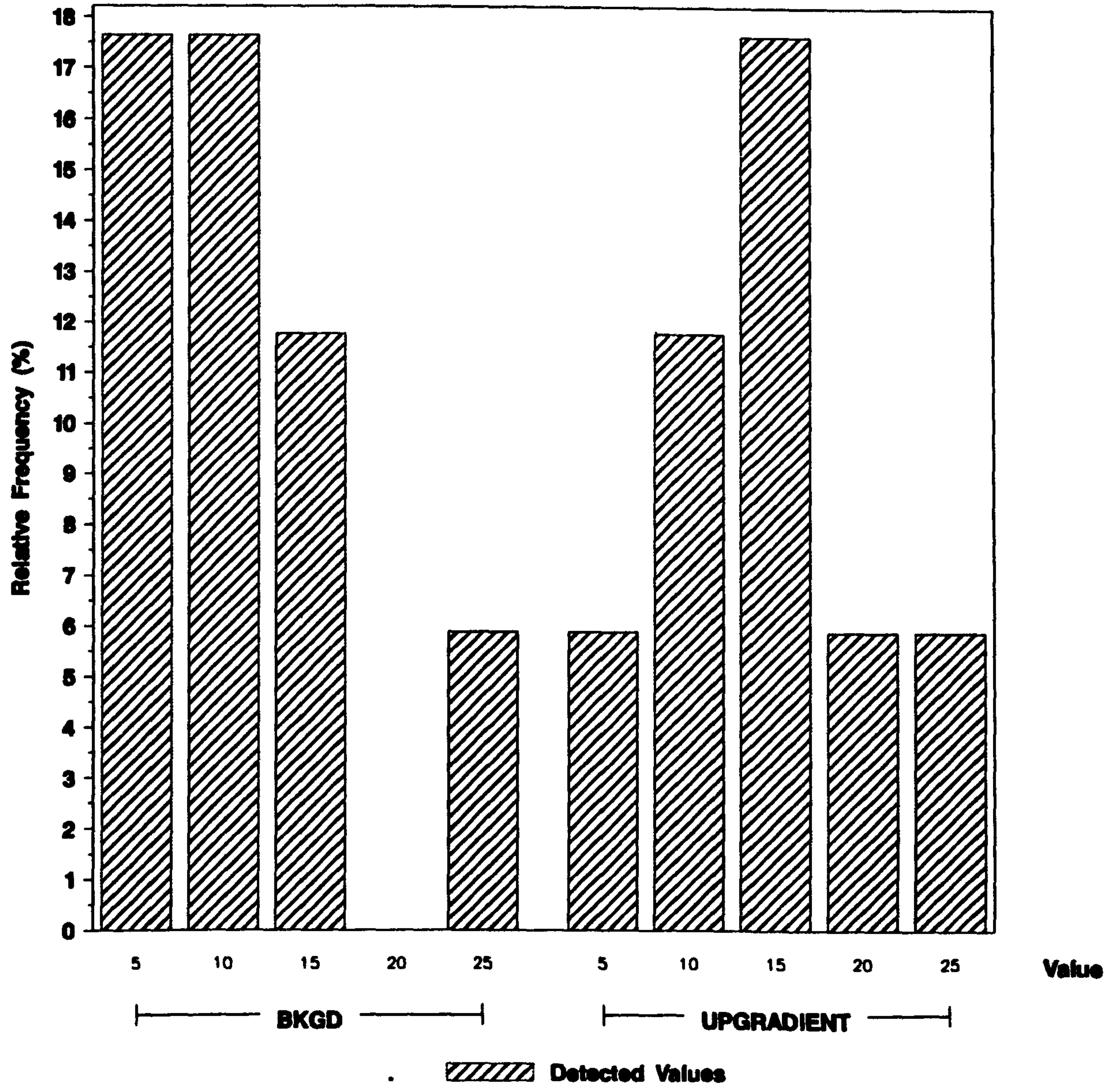
ANALYTE=IRON



Background KaKI-w vs OU7 KaKI-w Frequency Histogram

COPPER (mg\Kg) In Subsurface Geologic Materials

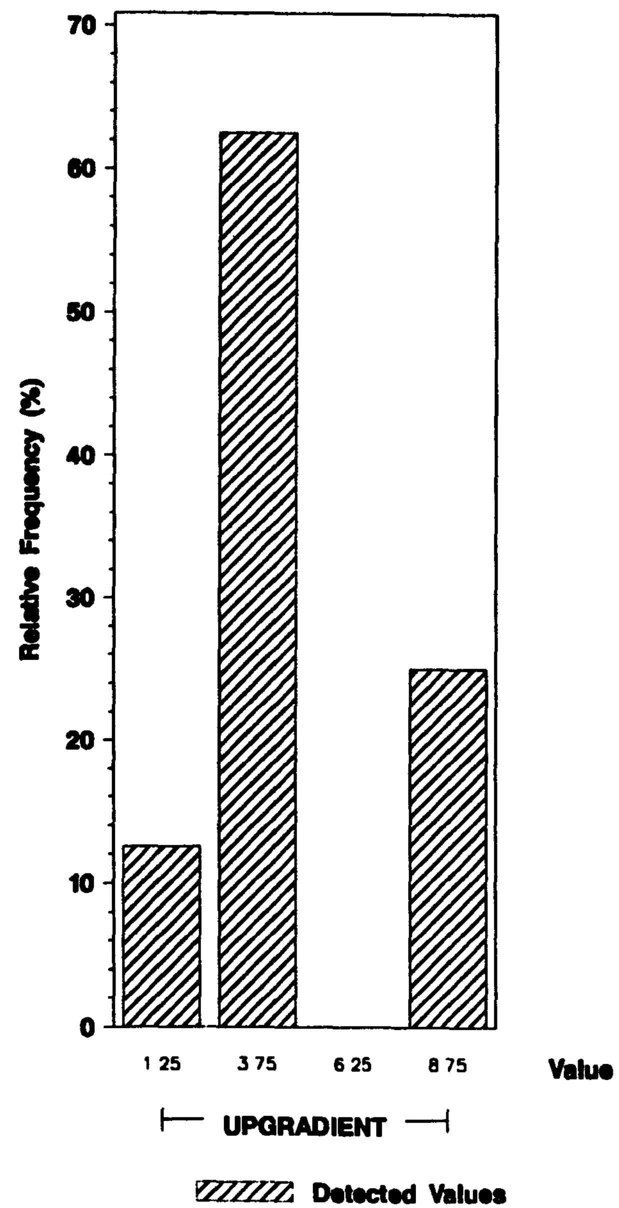
ANALYTE=COPPER



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

COBALT (mg\Kg) in Subsurface Geologic Materials

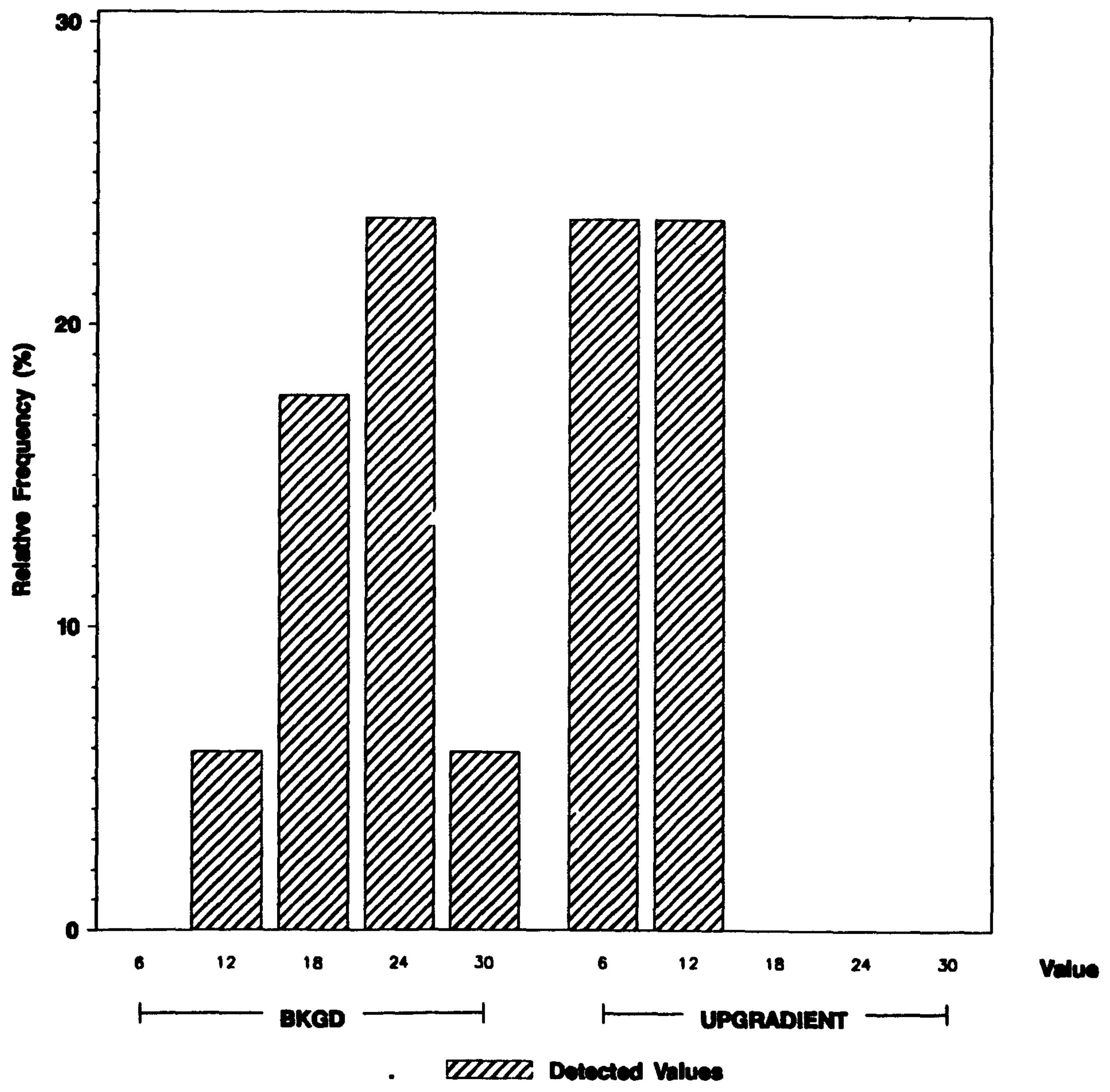
ANALYTE = COBALT



Background KaKl-w vs OU7 KaKl-w Frequency Histogram

CHROMIUM (mg\Kg) In Subsurface Geologic Materials

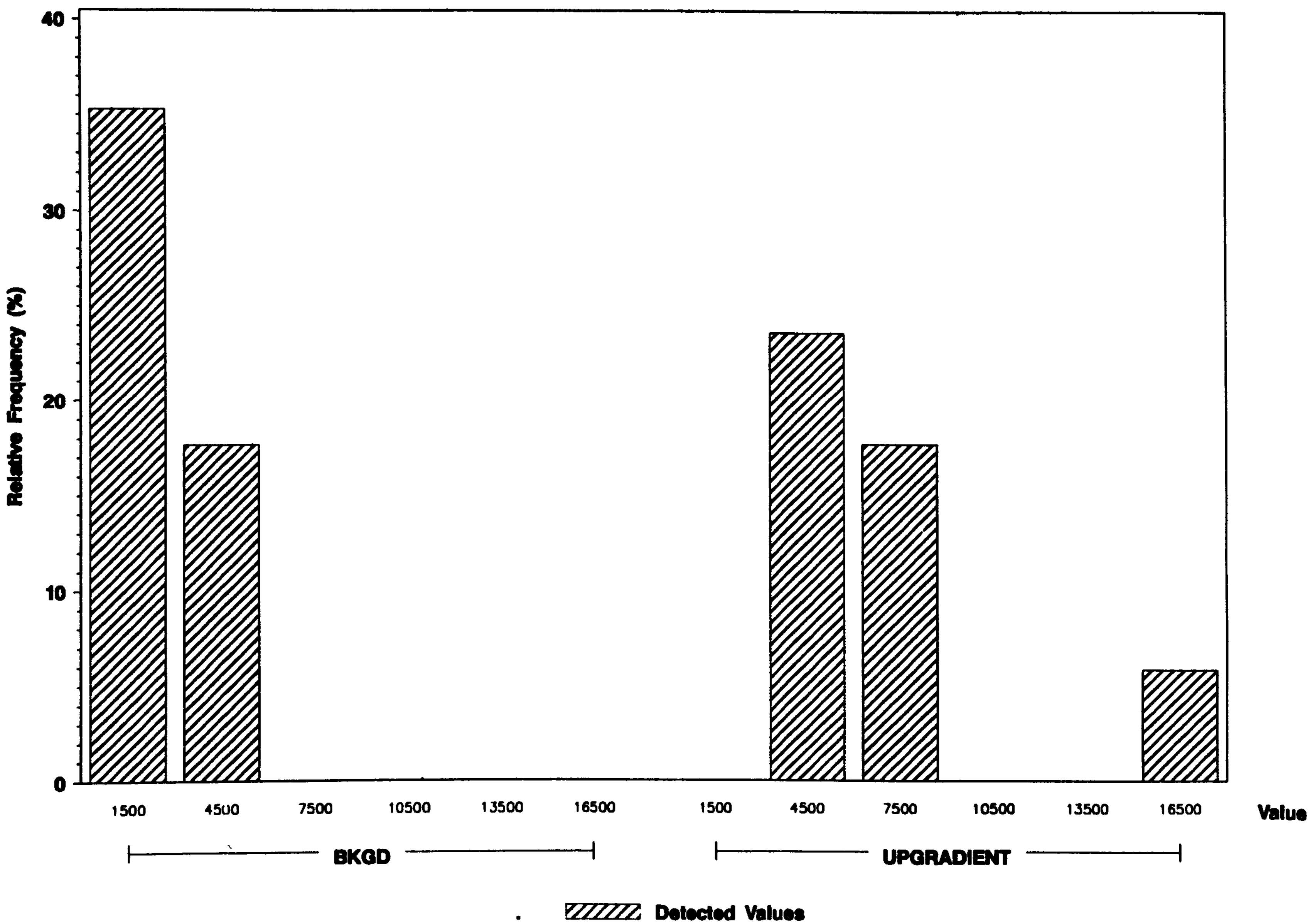
ANALYTE=CHROMIUM



Background KaKI-w vs OU7 KaKI-w Frequency Histogram

CALCIUM (mg\Kg) in Subsurface Geologic Materials

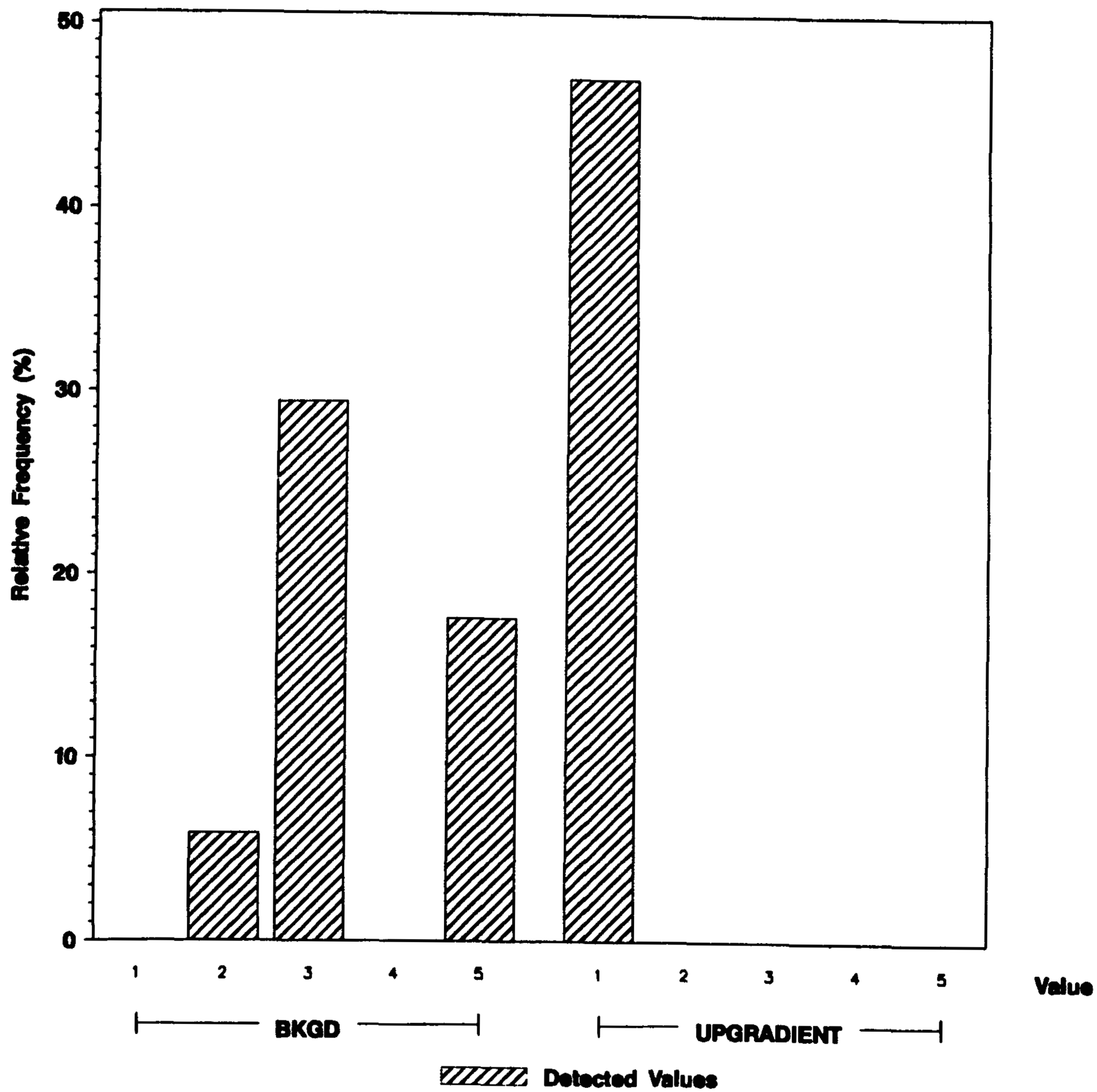
ANALYTE=CALCIUM



Background KaKI – w vs OU7 KaKI – w Frequency Histogram

BERYLLIUM (mg\Kg) In Subsurface Geologic Materials

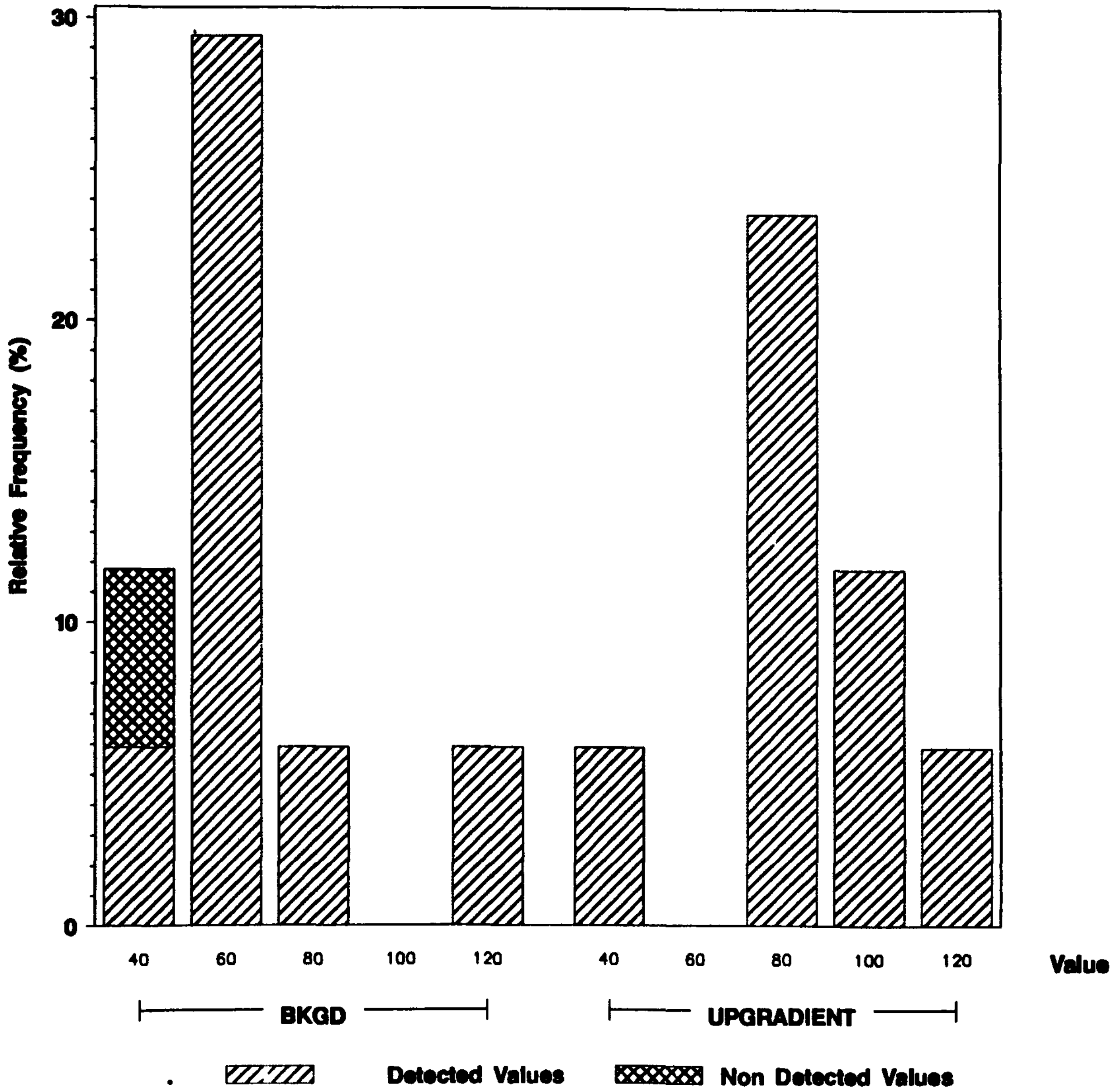
ANALYTE = BERYLLIUM



Background KaKl−w vs OU7 KaKl−w Frequency Histogram

BARIUM (mg\Kg) in Subsurface Geologic Materials

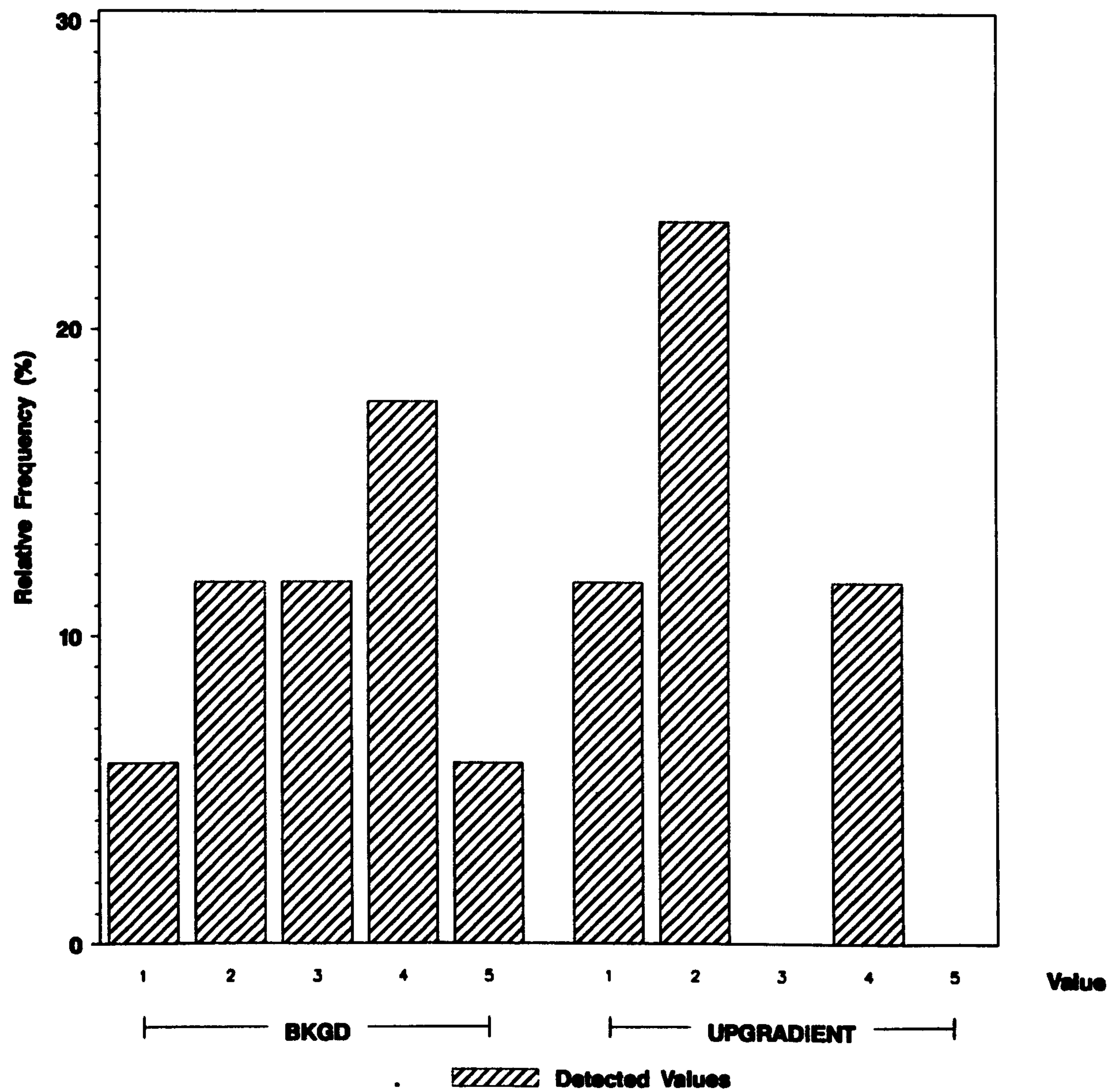
ANALYTE=BARIUM



Background KaKl-w vs OU7 KaKl-w Frequency Histogram

ARSENIC (mg\Kg) in Subsurface Geologic Materials

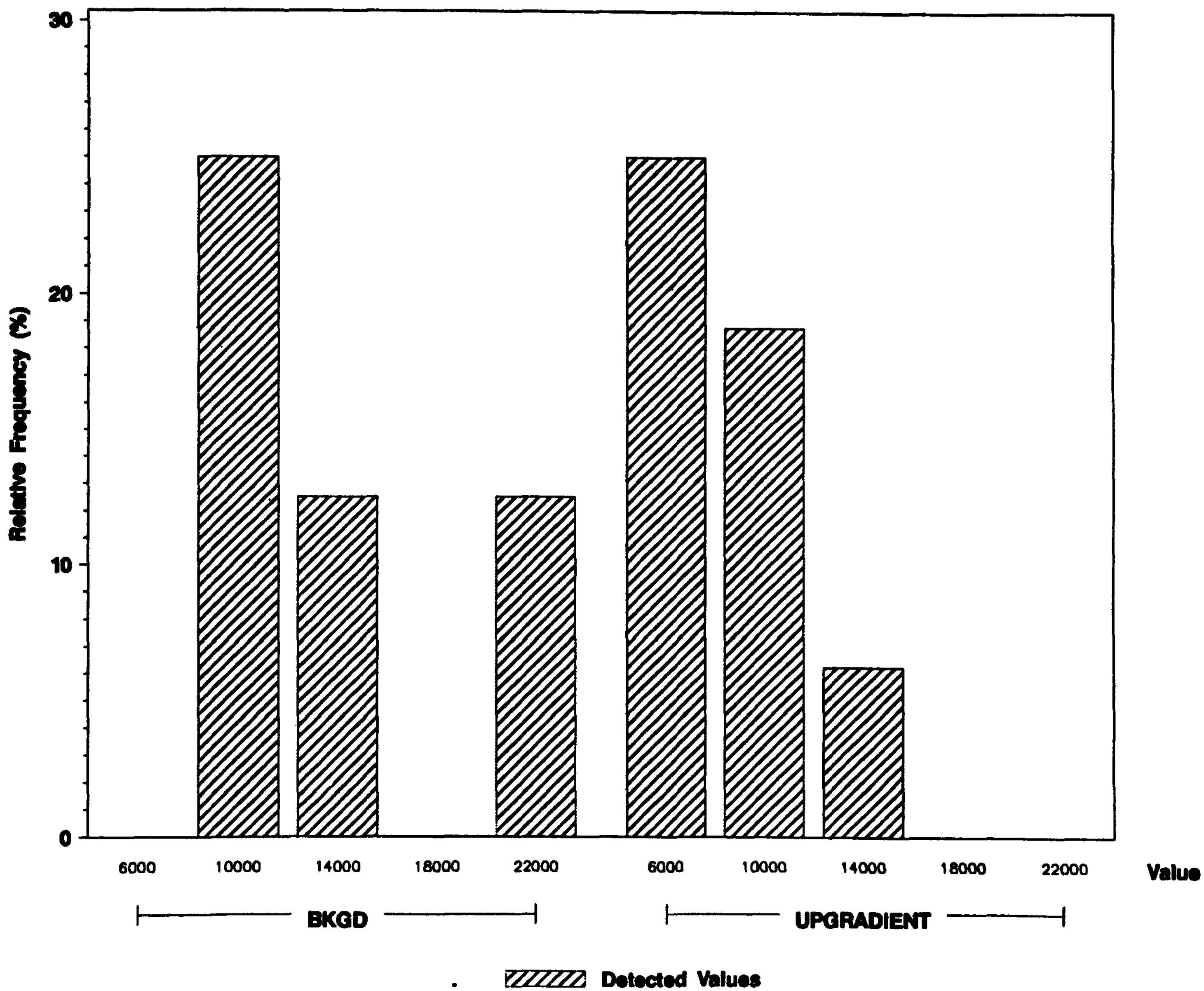
ANALYTE=ARSENIC



Background KaKl−w vs OU7 KaKl−w Frequency Histogram

ALUMINUM (mg\Kg) In Subsurface Geologic Materials

ANALYTE=ALUMINUM



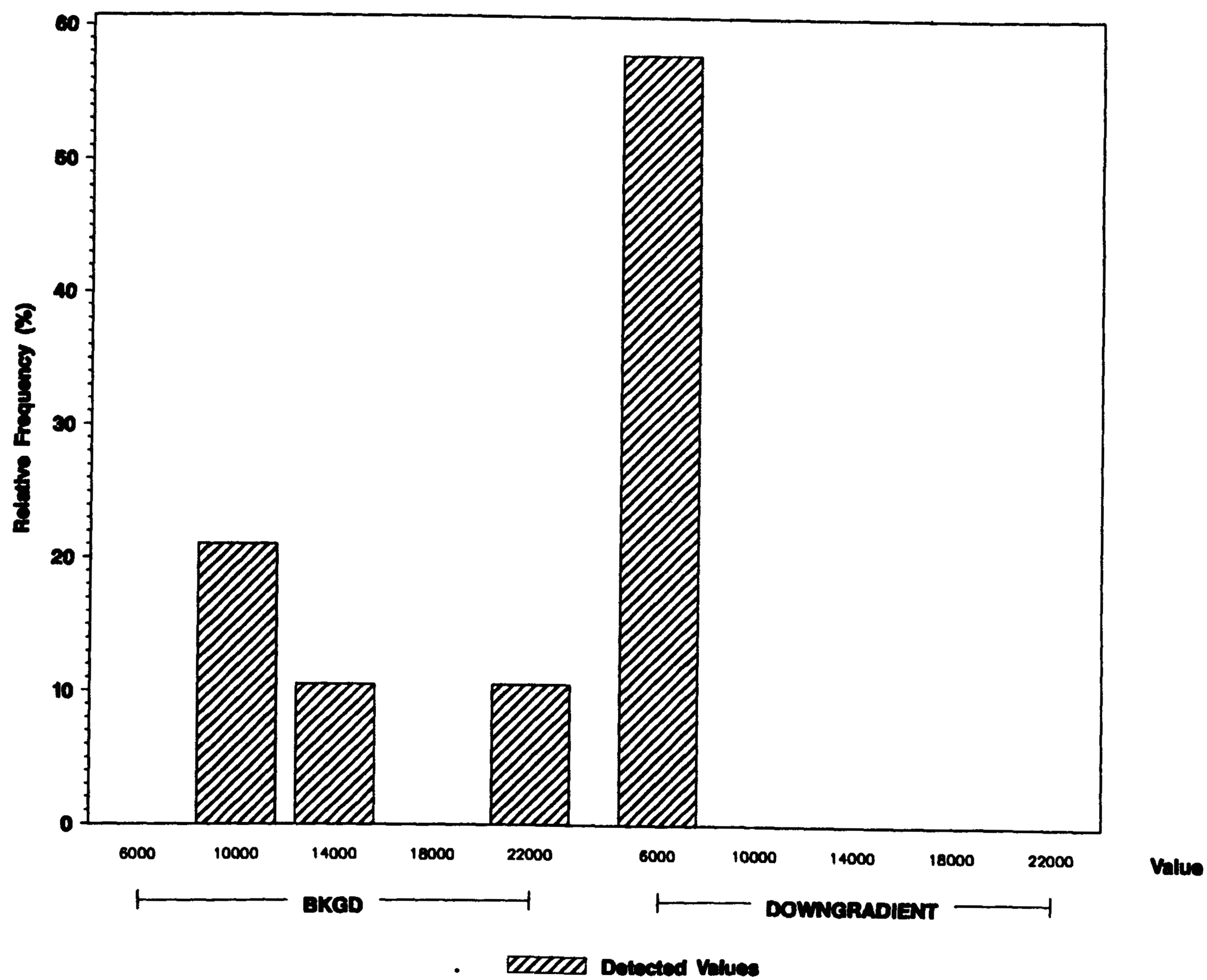
Subsurface Geologic Materials

Background vs. OU 7 Downgradient KaKl(w)

Background KaKl-w vs OU7 KaKl-w Frequency Histogram

ALUMINUM (mg\Kg) in Subsurface Geologic Materials

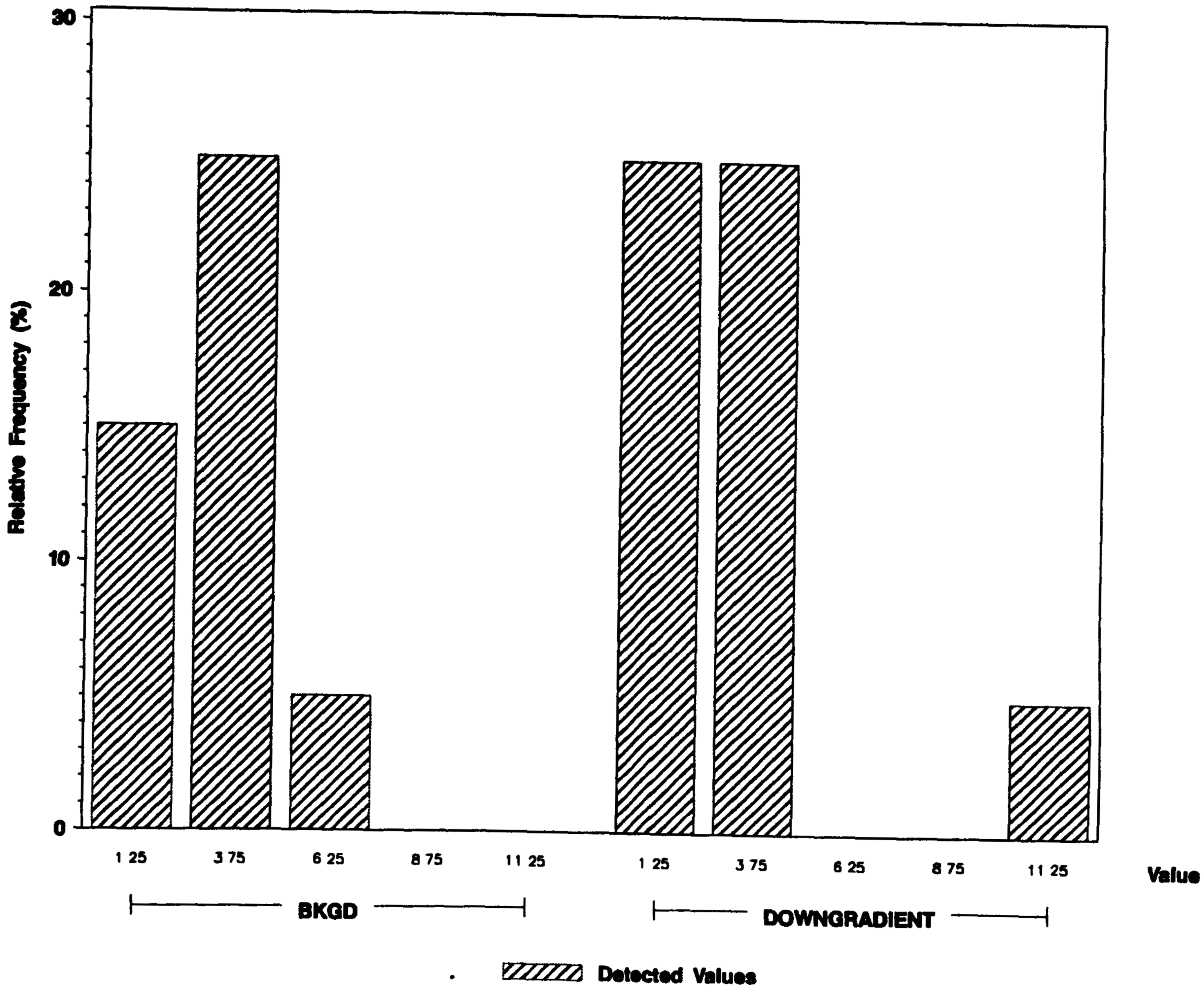
ANALYTE=ALUMINUM



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

ARSENIC (mg\Kg) in Subsurface Geologic Materials

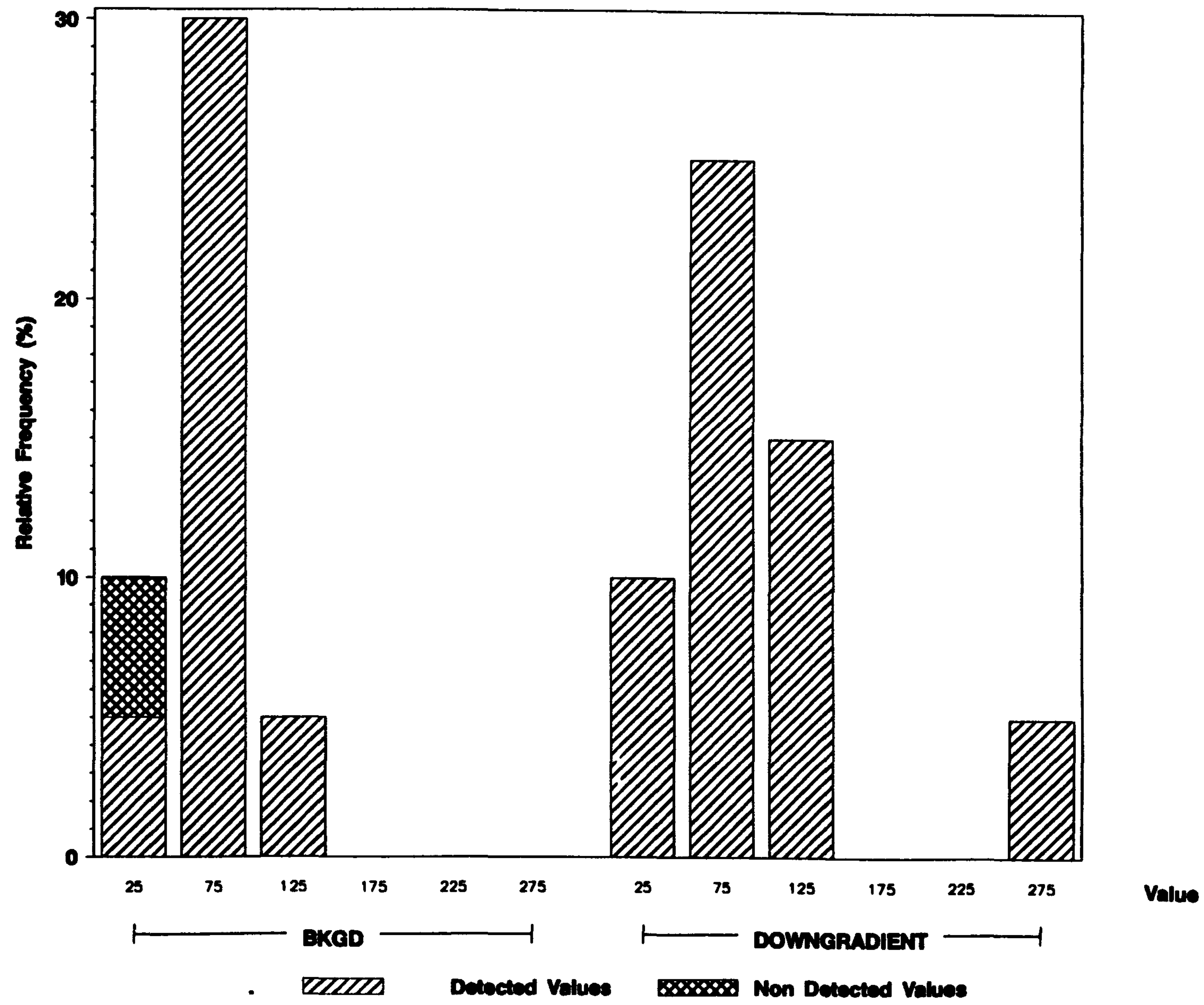
ANALYTE = ARSENIC



Background KaKl-w vs OU7 KaKl-w Frequency Histogram

BARIUM (mg\Kg) in Subsurface Geologic Materials

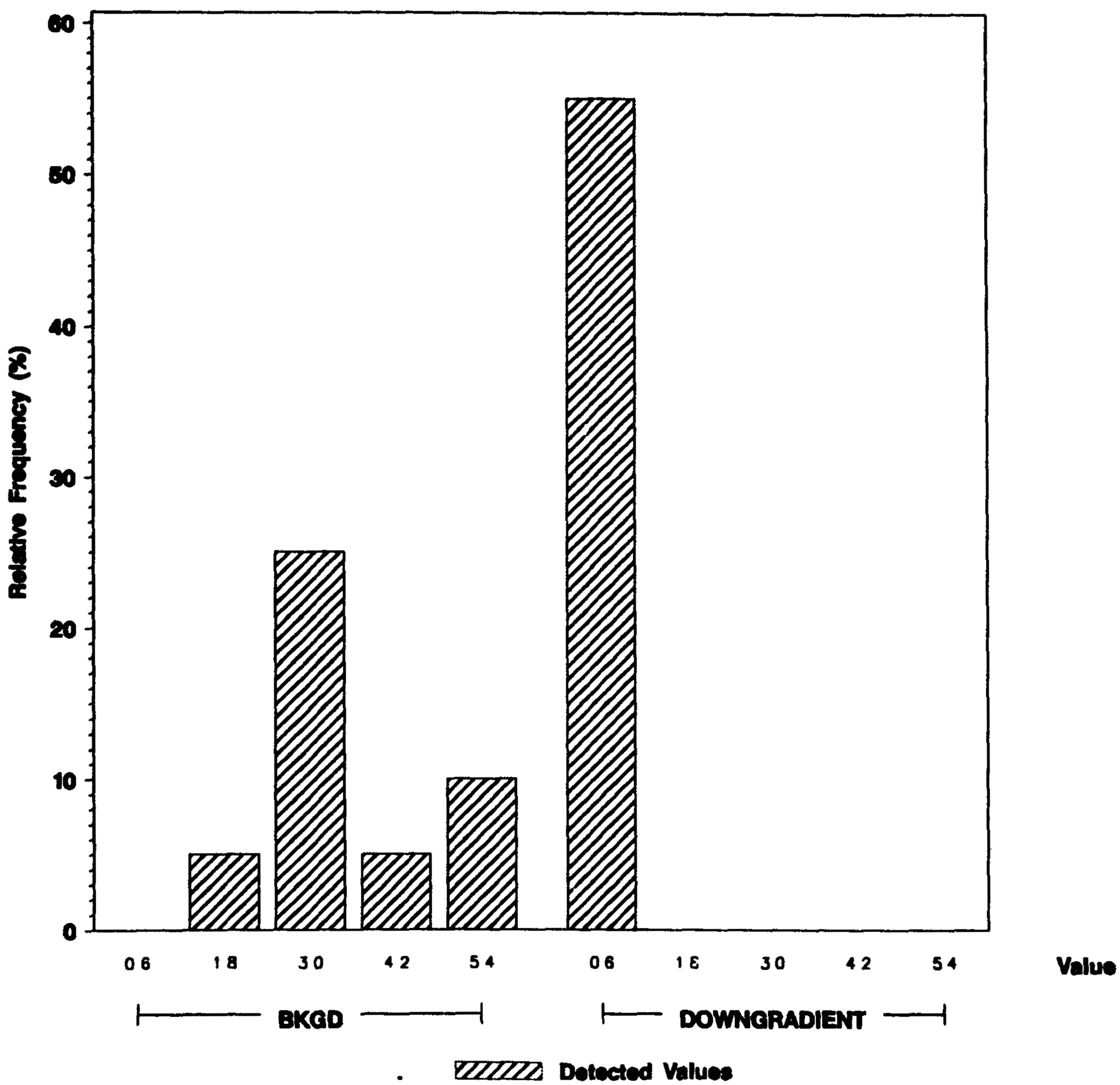
ANALYTE=BARIUM



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

BERYLLIUM (mg\Kg) in Subsurface Geologic Materials

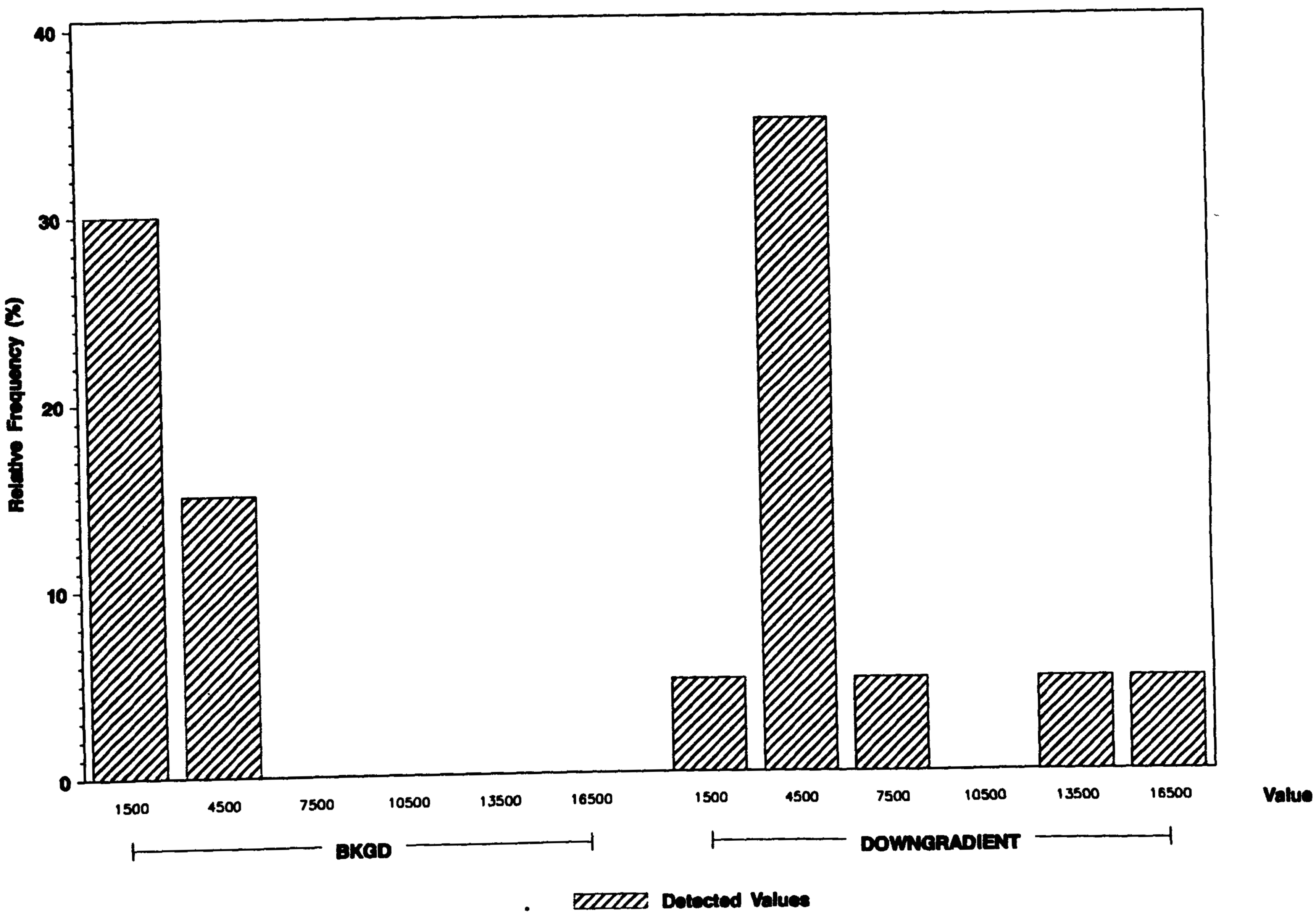
ANALYTE = BERYLLIUM



Background KaKI – w vs OU7 KaKI – w Frequency Histogram

CALCIUM (mg\Kg) In Subsurface Geologic Materials

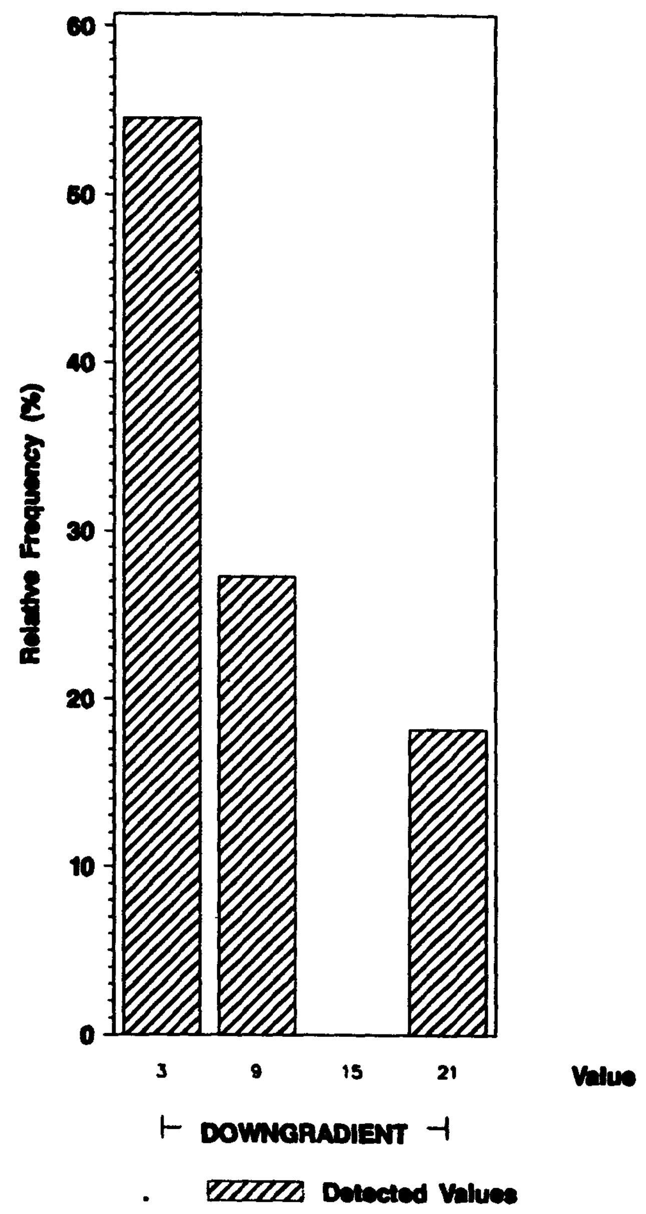
ANALYTE = CALCIUM



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

COBALT (mg\Kg) in Subsurface Geologic Materials

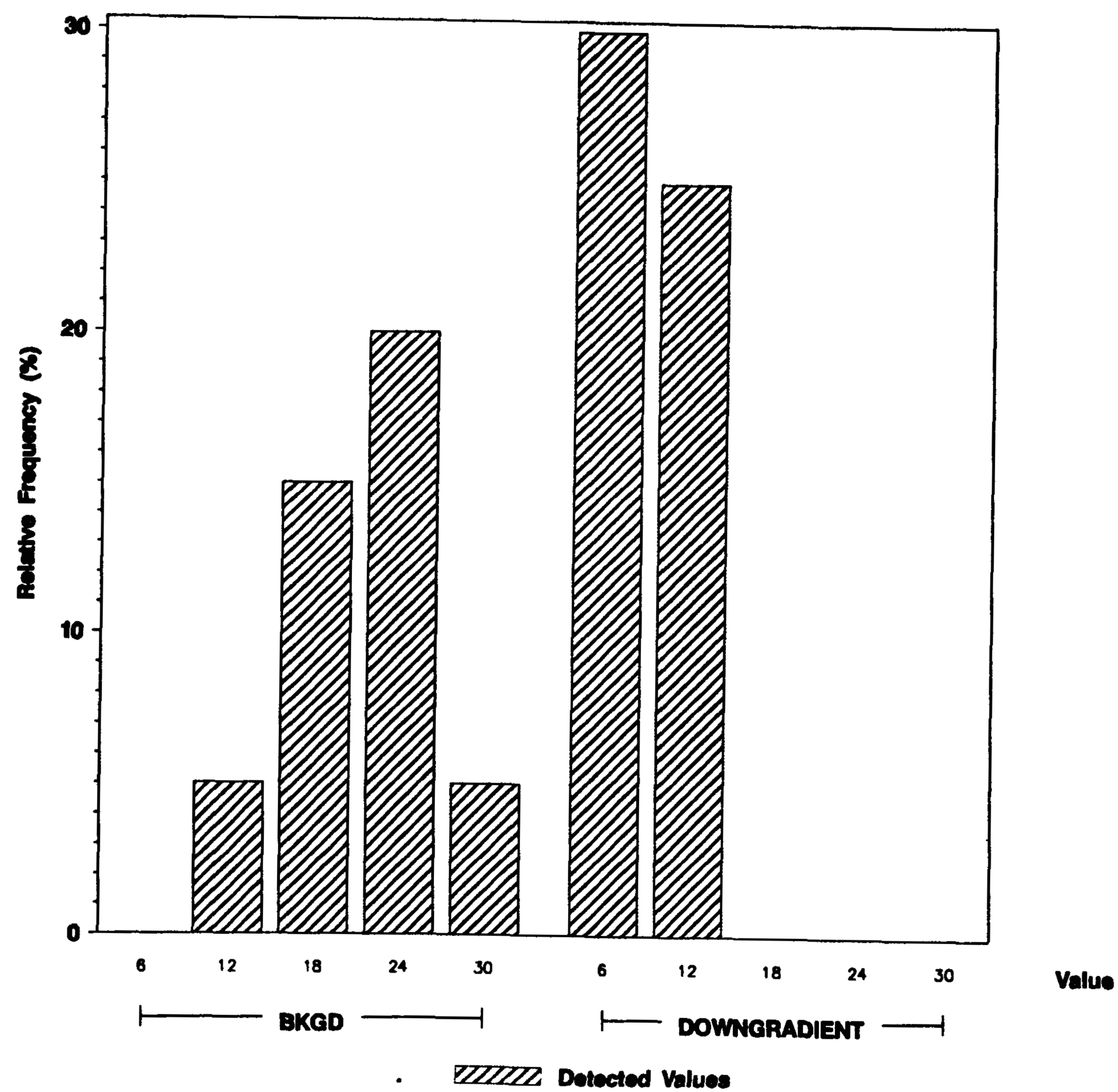
ANALYTE=COBALT



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

CHROMIUM (mg\Kg) In Subsurface Geologic Materials

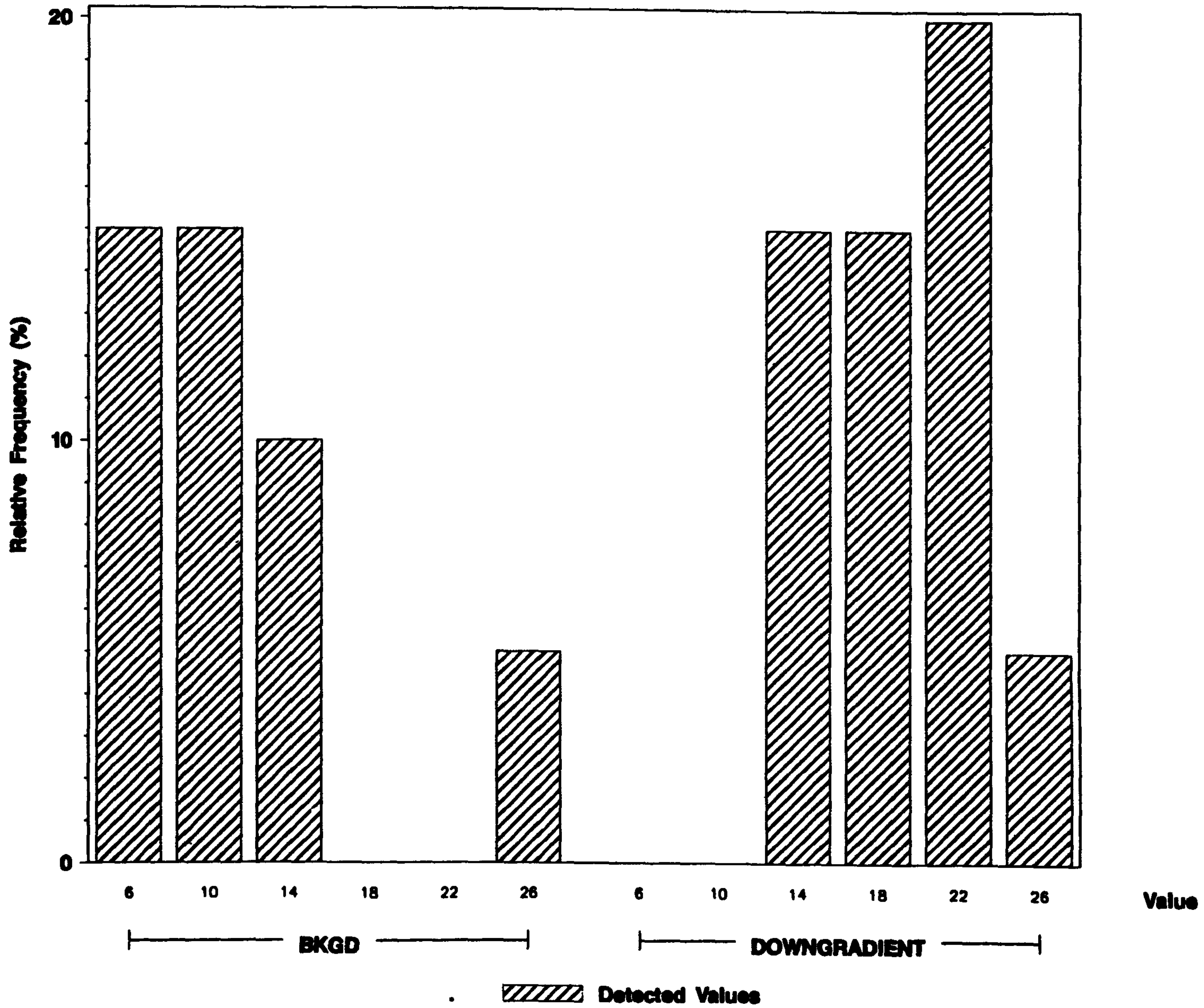
ANALYTE=CHROMIUM



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

COPPER (mg\Kg) In Subsurface Geologic Materials

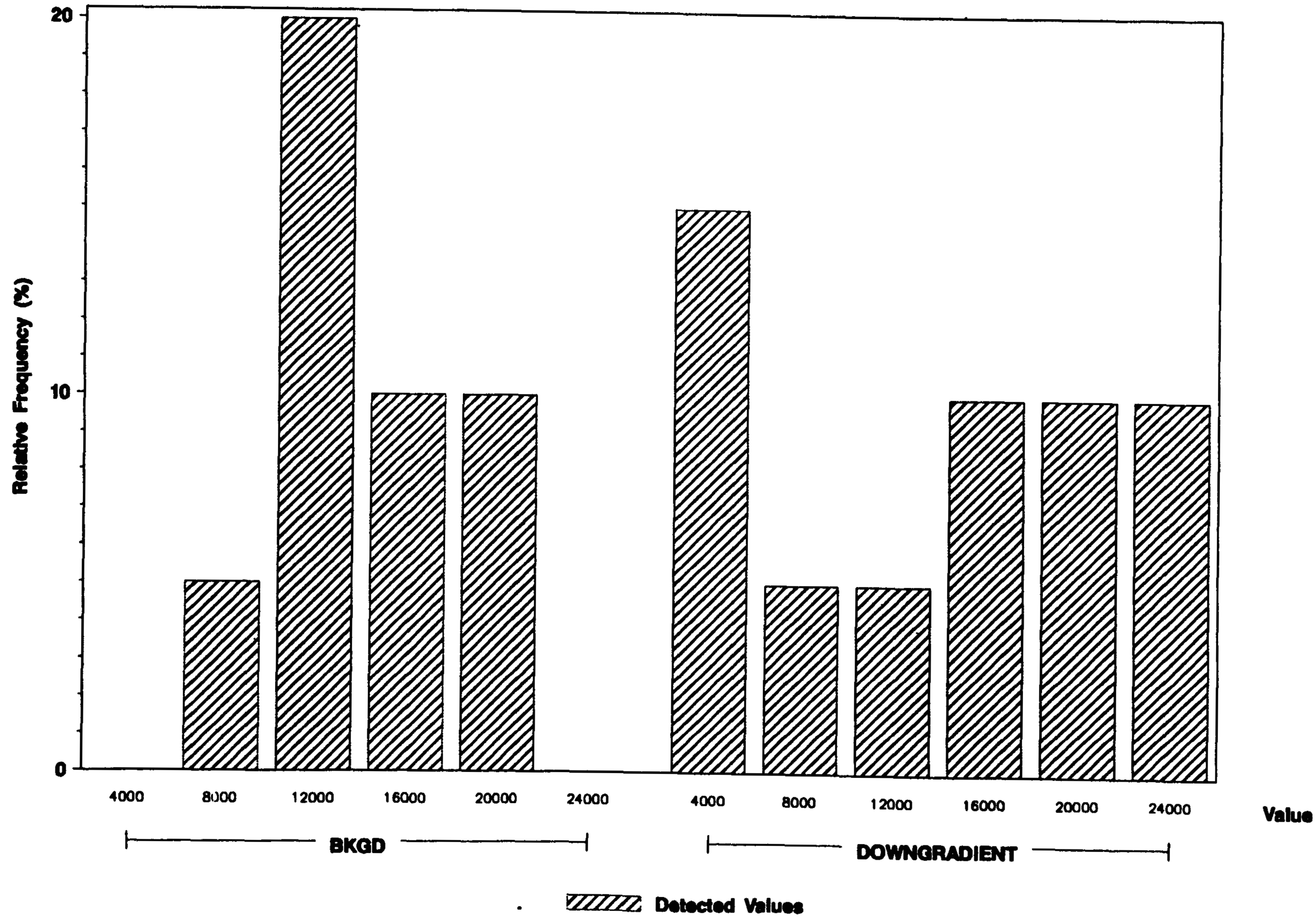
ANALYTE = COPPER



Background KaKI – w vs OU7 KaKI – w Frequency Histogram

IRON (mg\Kg) in Subsurface Geologic Materials

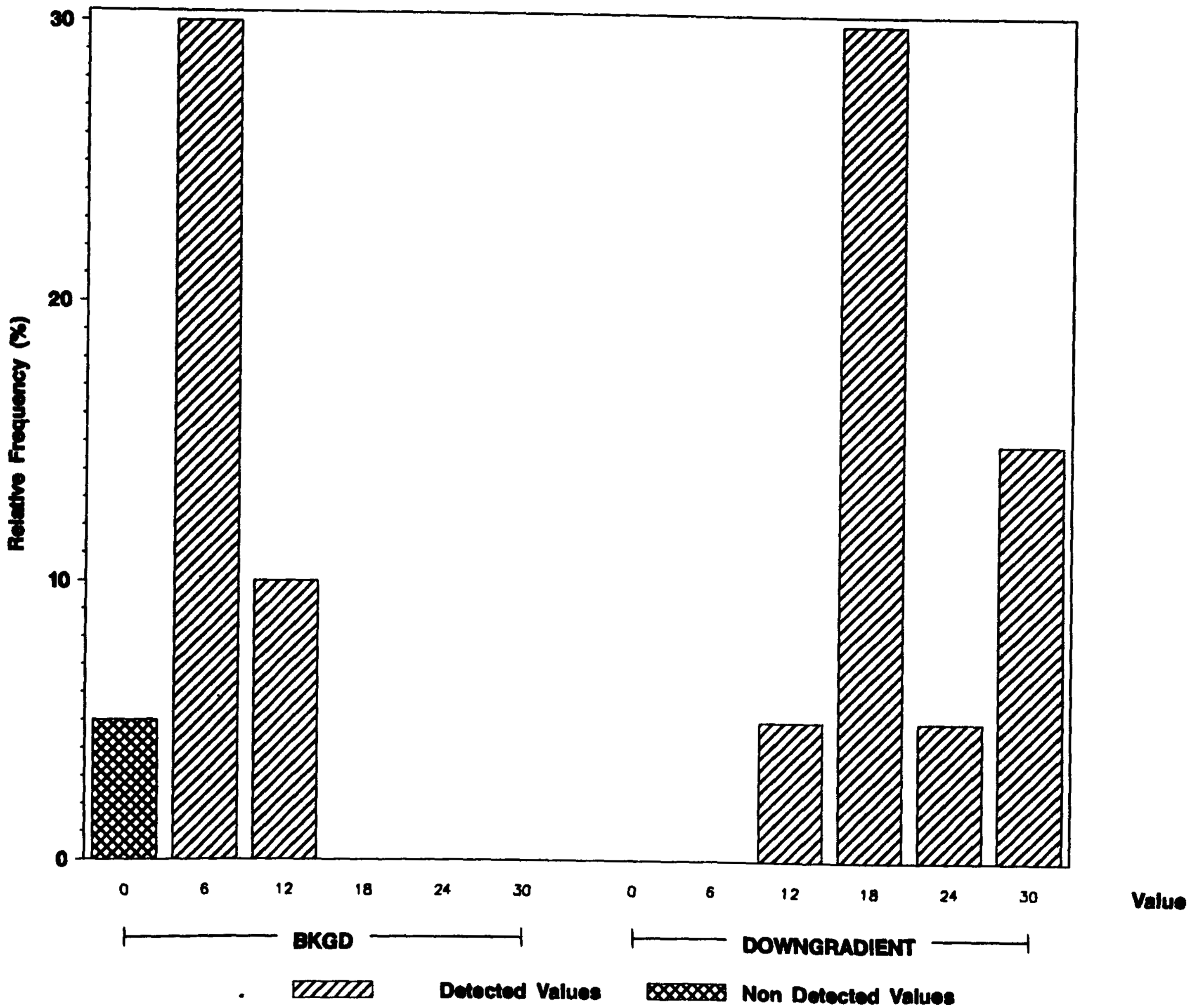
ANALYTE = IRON



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

LEAD (mg\Kg) In Subsurface Geologic Materials

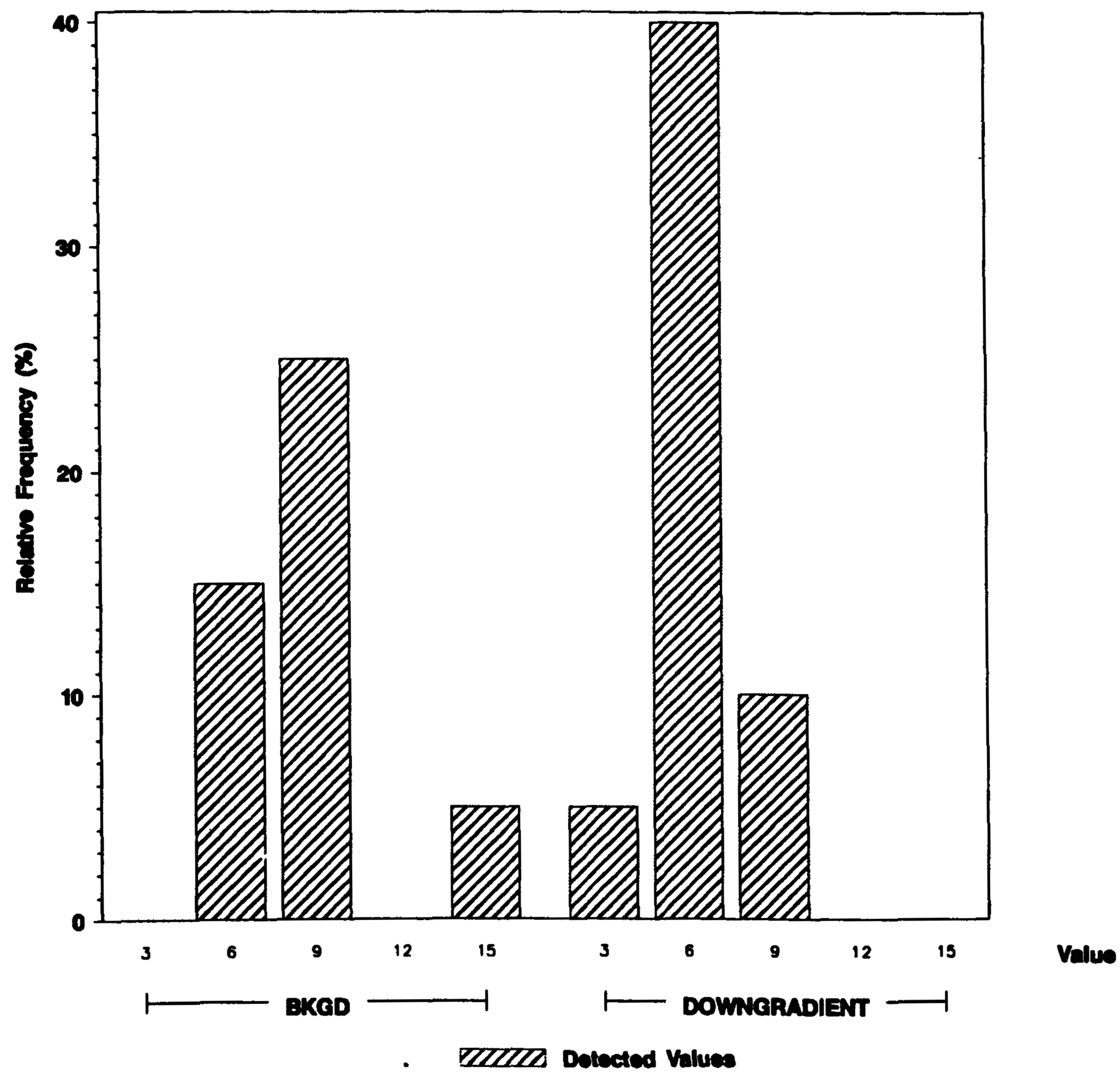
ANALYTE = LEAD



Background KaKI-w vs OU7 KaKI-w Frequency Histogram

LITHIUM (mg\Kg) in Subsurface Geologic Materials

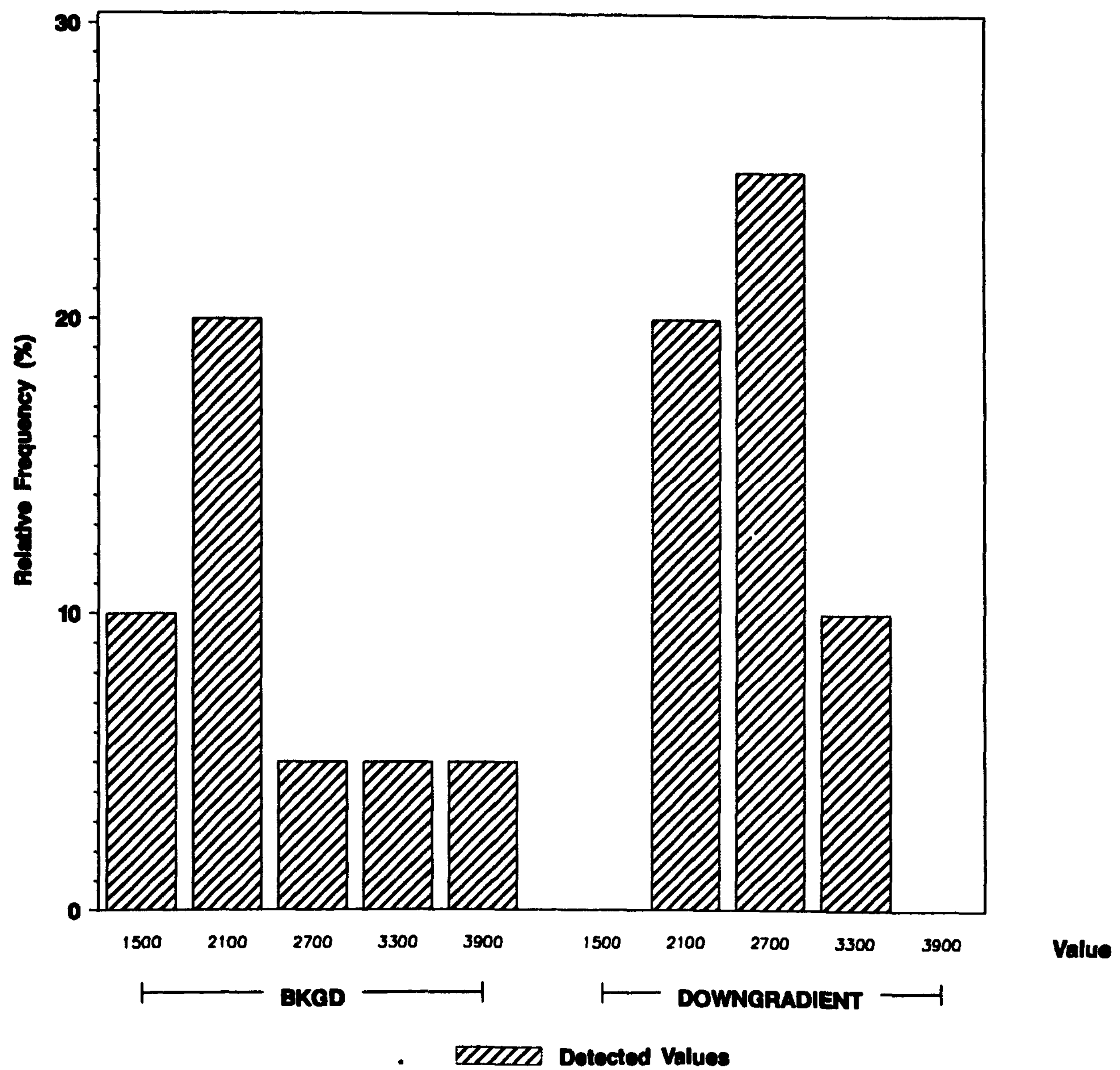
ANALYTE=LITHIUM



Background KaKl-w vs OU7 KaKl-w Frequency Histogram

MAGNESIUM (mg\Kg) In Subsurface Geologic Materials

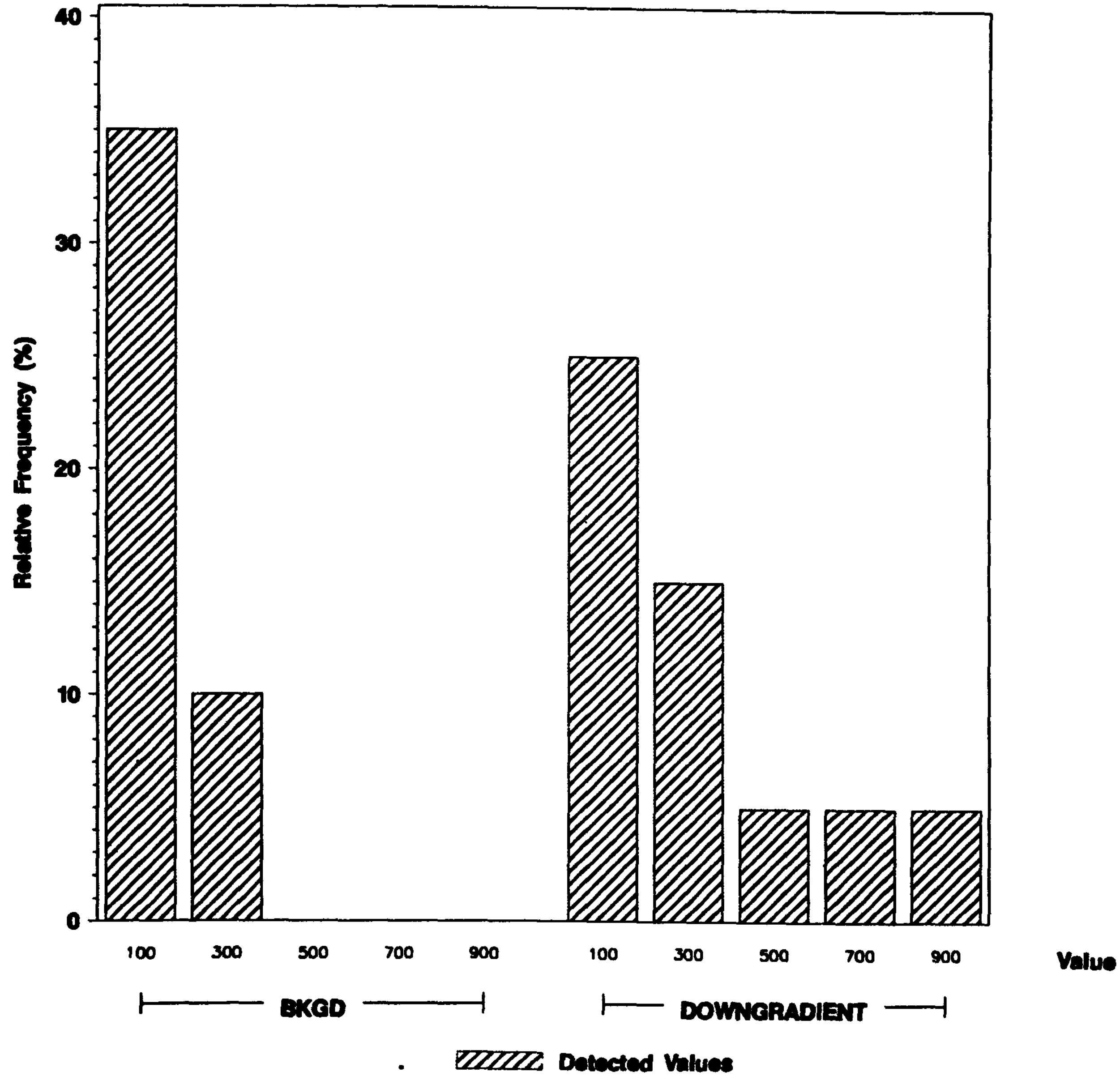
ANALYTE=MAGNESIUM



Background KaKI—w vs OU7 KaKI—w Frequency Histogram

MANGANESE (mg\Kg) in Subsurface Geologic Materials

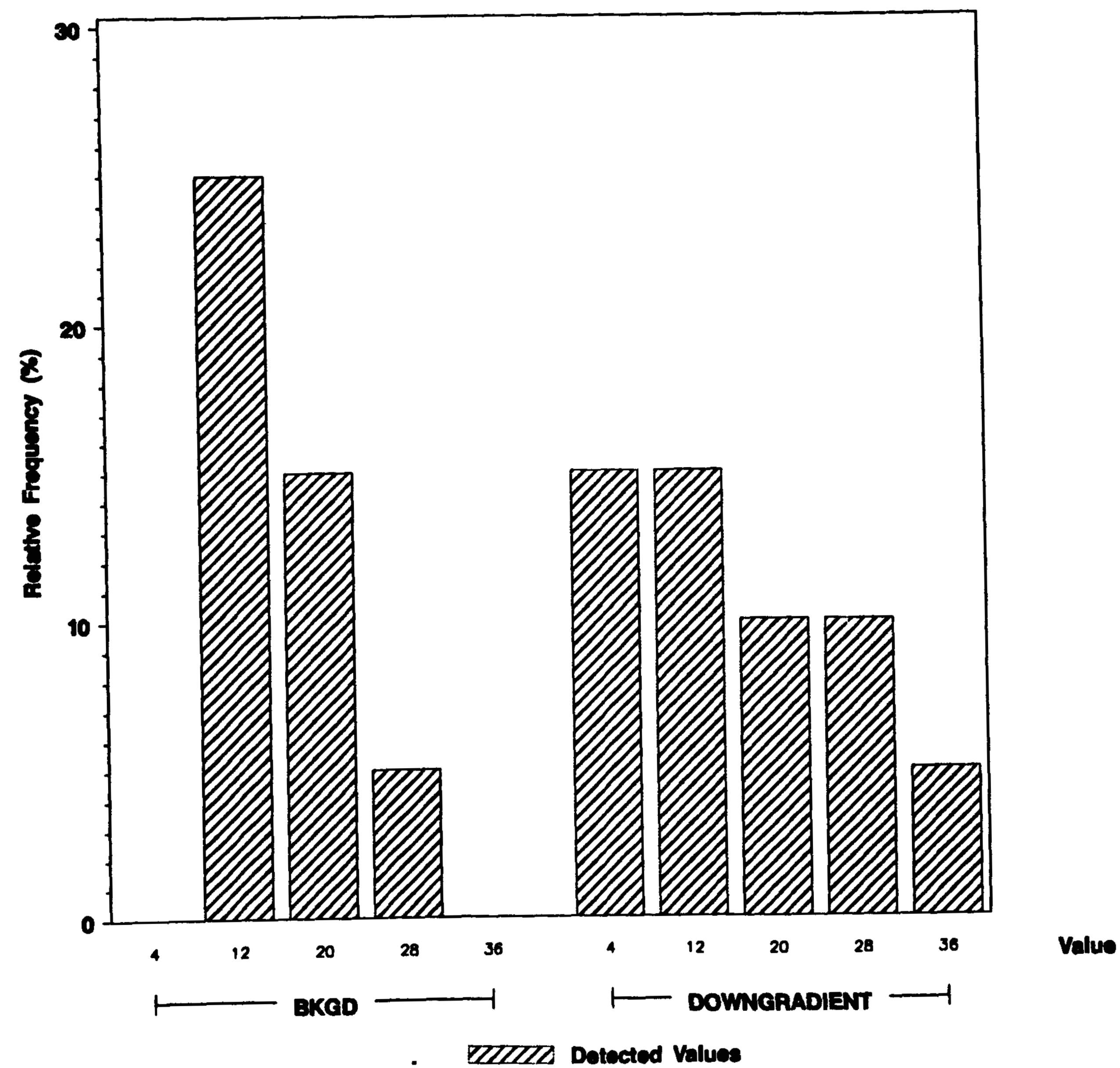
ANALYTE=MANGANESE



Background KaKI−w vs OU7 KaKI−w Frequency Histogram

NICKEL (mg\Kg) in Subsurface Geologic Materials

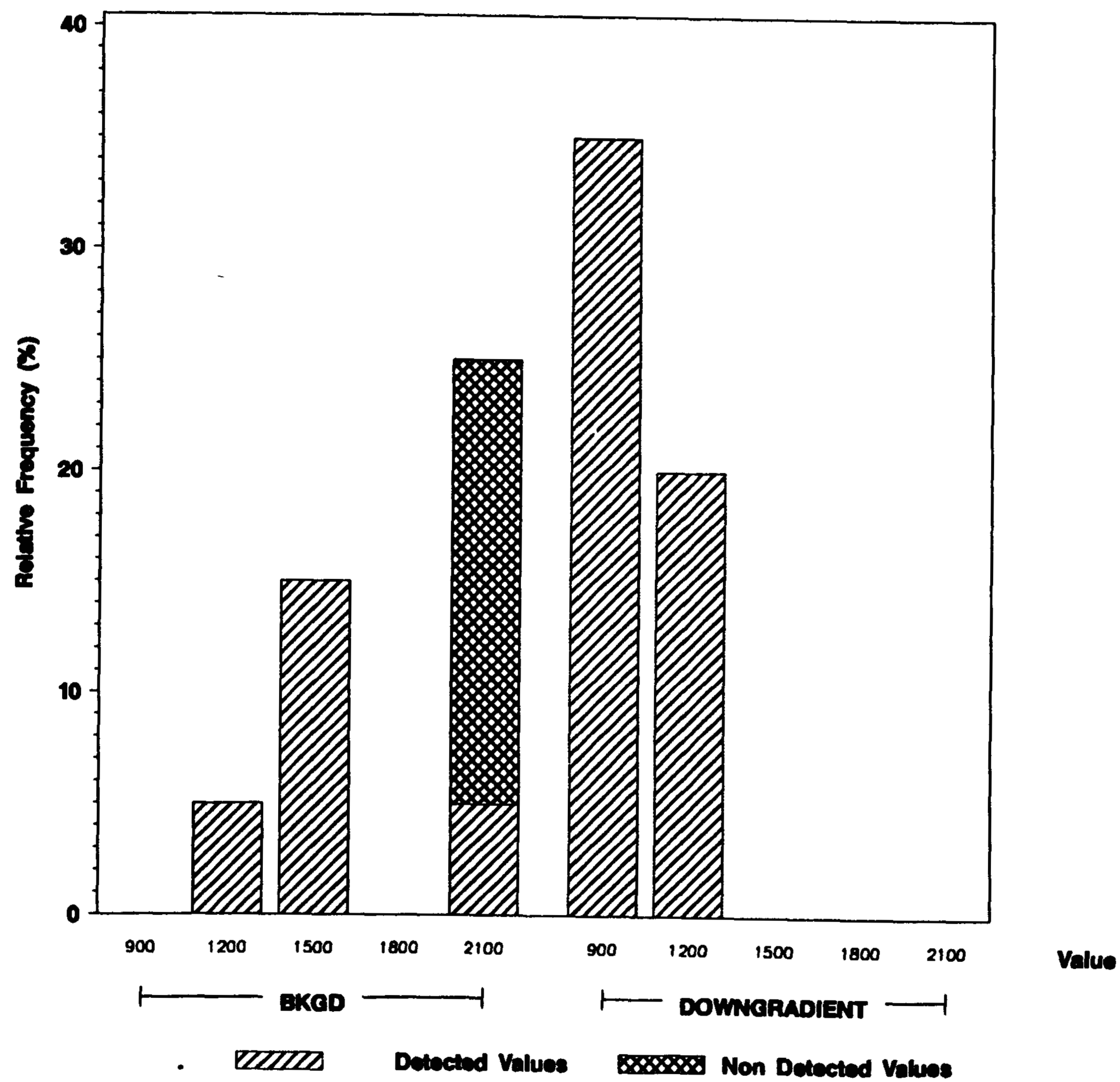
ANALYTE=NICKEL



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

POTASSIUM (mg\Kg) In Subsurface Geologic Materials

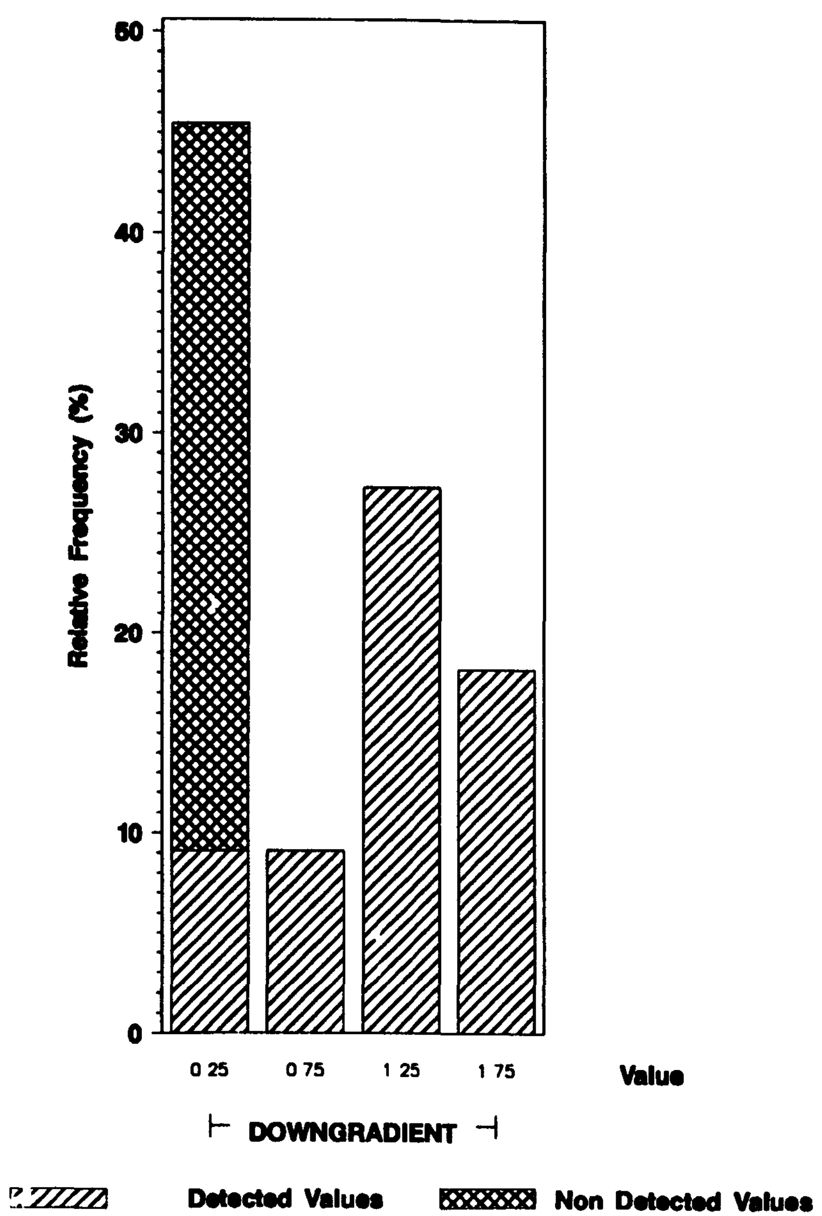
ANALYTE = POTASSIUM



Background KaKI-w vs OU7 KaKI-w Frequency Histogram

SELENIUM (mg\Kg) In Subsurface Geologic Materials

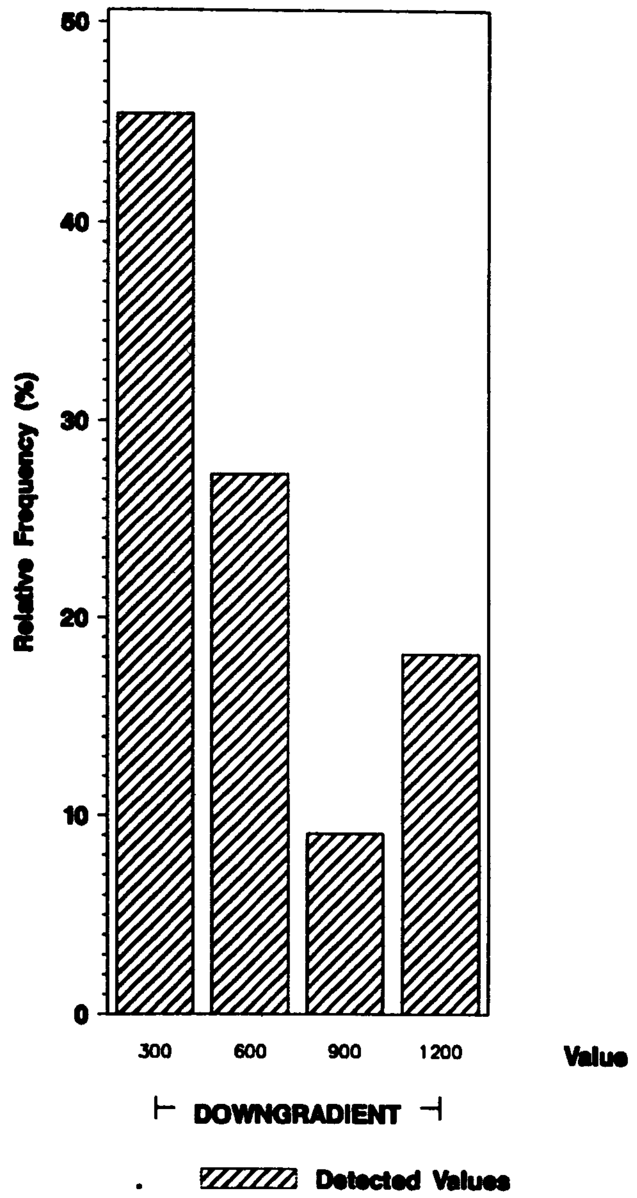
ANALYTE=SELENIUM



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

SILICON (mg\Kg) In Subsurface Geologic Materials

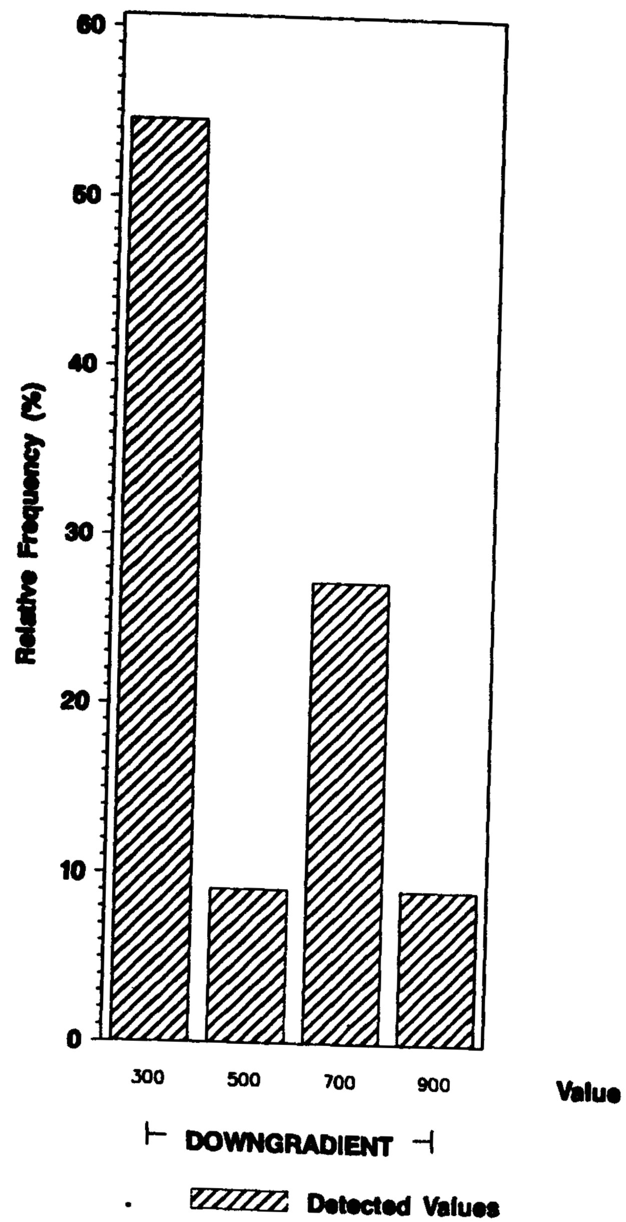
ANALYTE=SILICON



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

SODIUM (mg\Kg) in Subsurface Geologic Materials

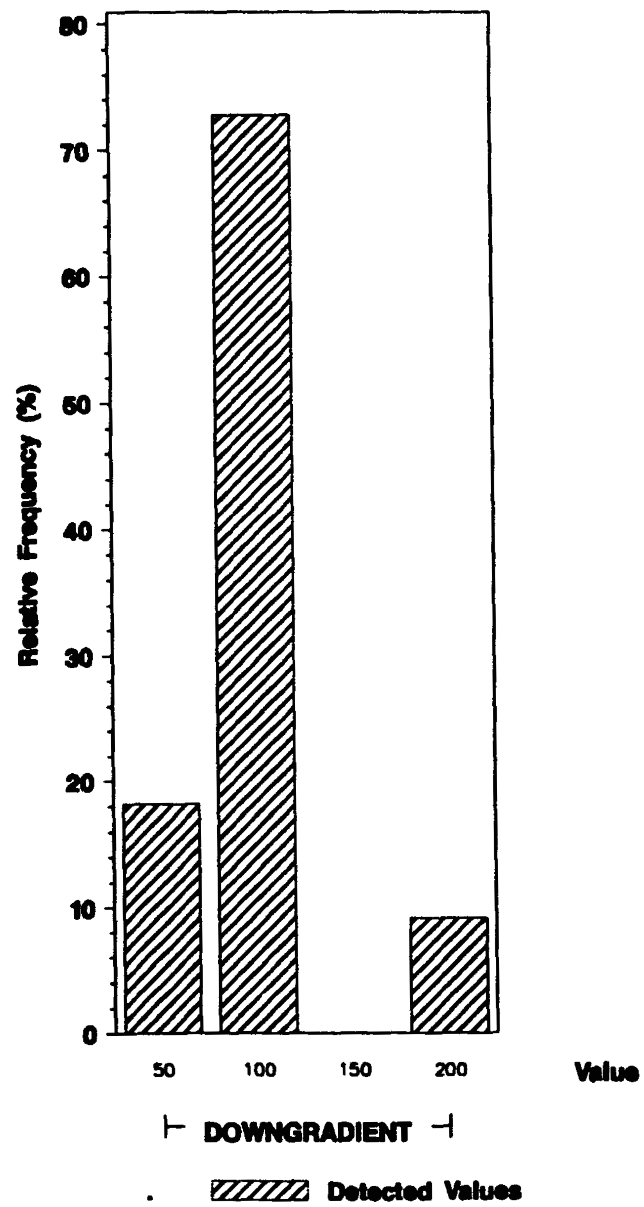
ANALYTE=SODIUM



Background KaKl-w vs OU7 KaKl-w Frequency Histogram

STRONTIUM (mg\Kg) in Subsurface Geologic Materials

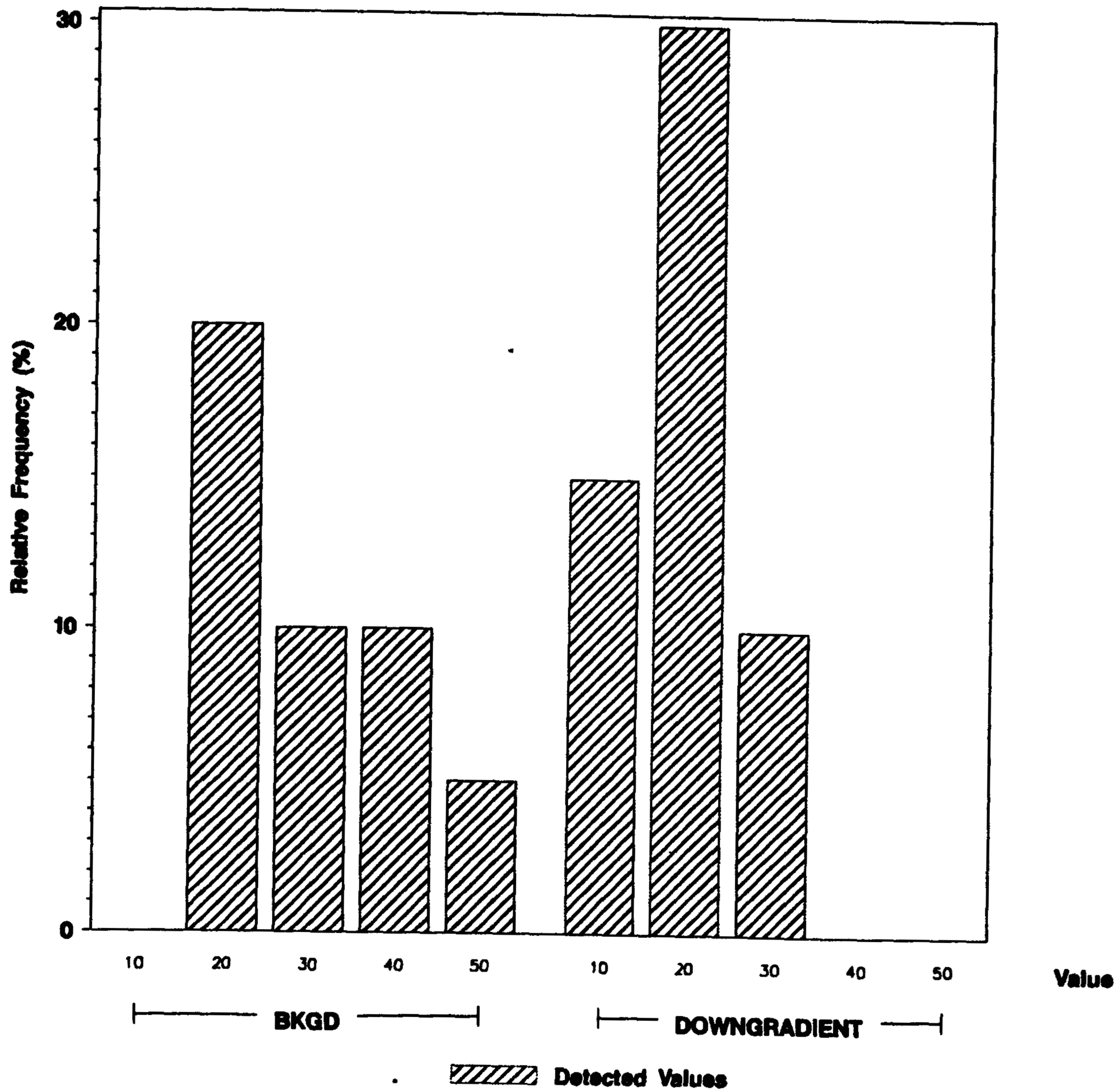
ANALYTE=STRONTIUM



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

VANADIUM (mg\Kg) In Subsurface Geologic Materials

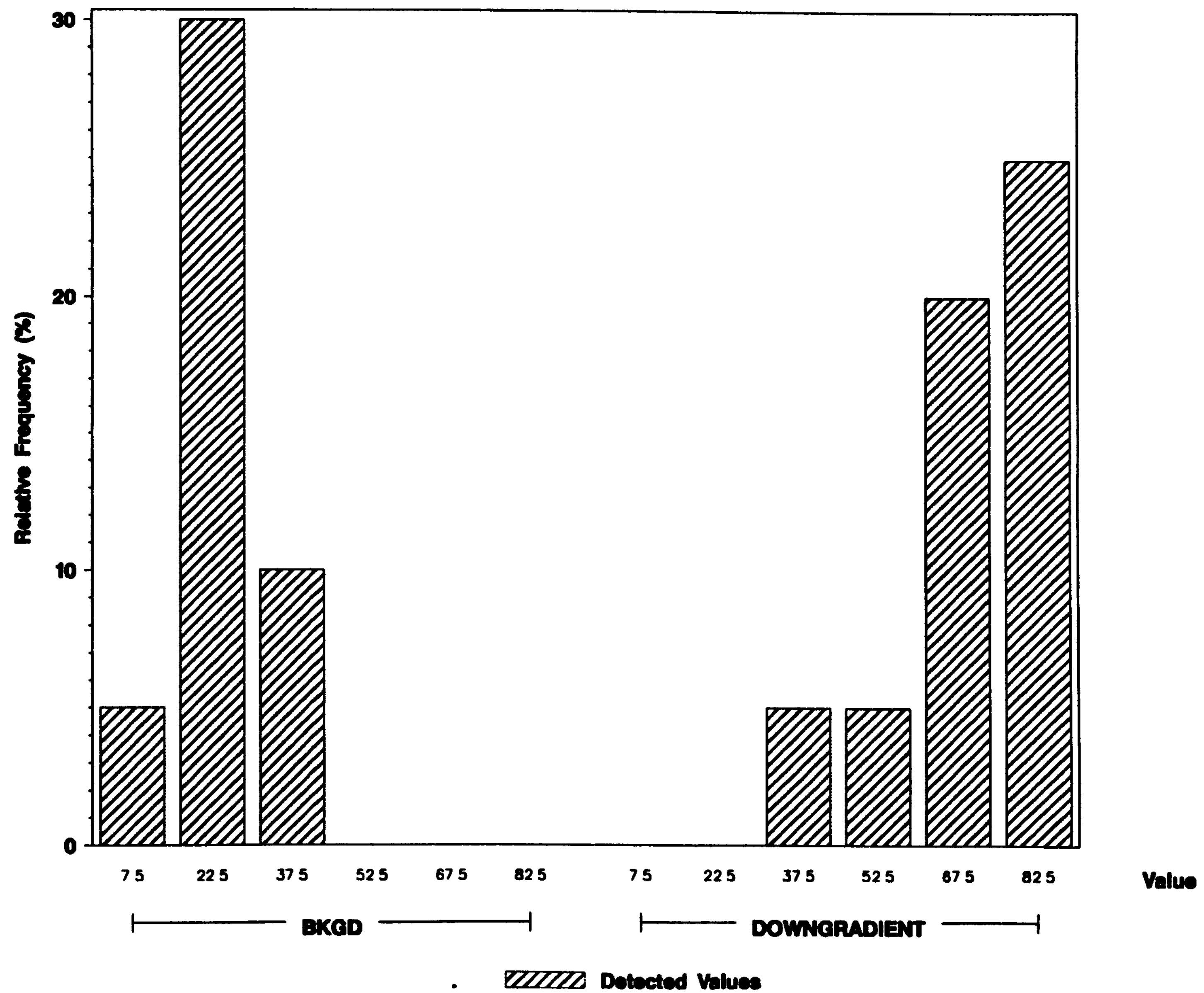
ANALYTE = VANADIUM



Background KaKl-w vs OU7 KaKl-w Frequency Histogram

ZINC (mg\Kg) in Subsurface Geologic Materials

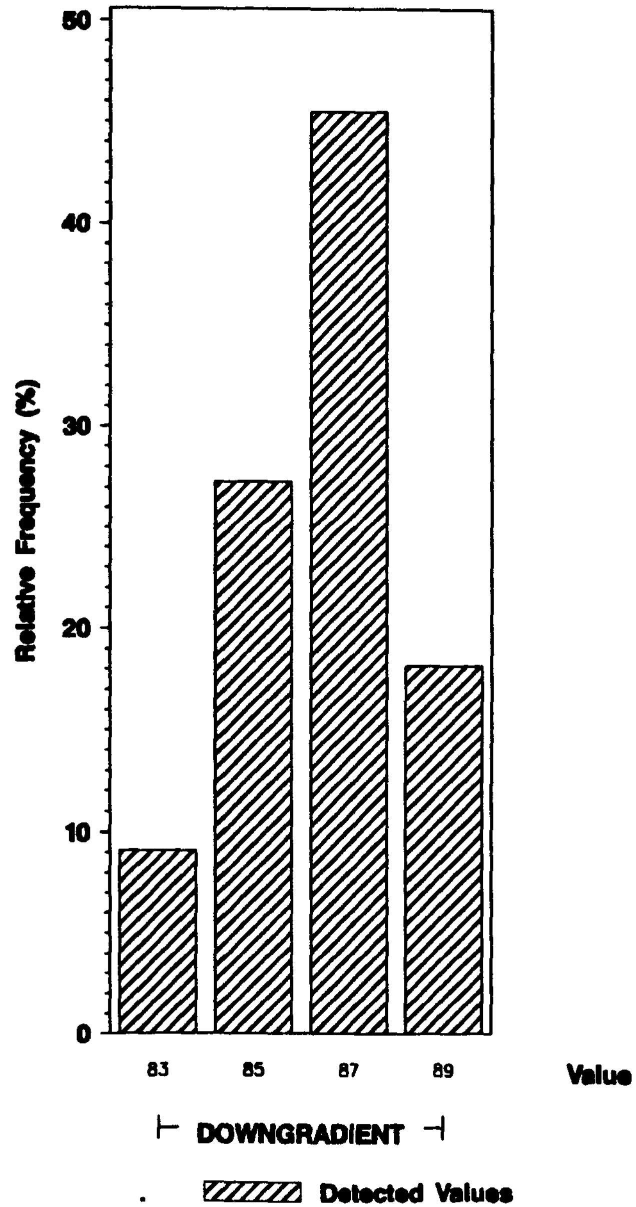
ANALYTE=ZINC



Background KaKl-w vs OU7 KaKl-w Frequency Histogram

% SOLIDS (%) In Subsurface Geologic Materials

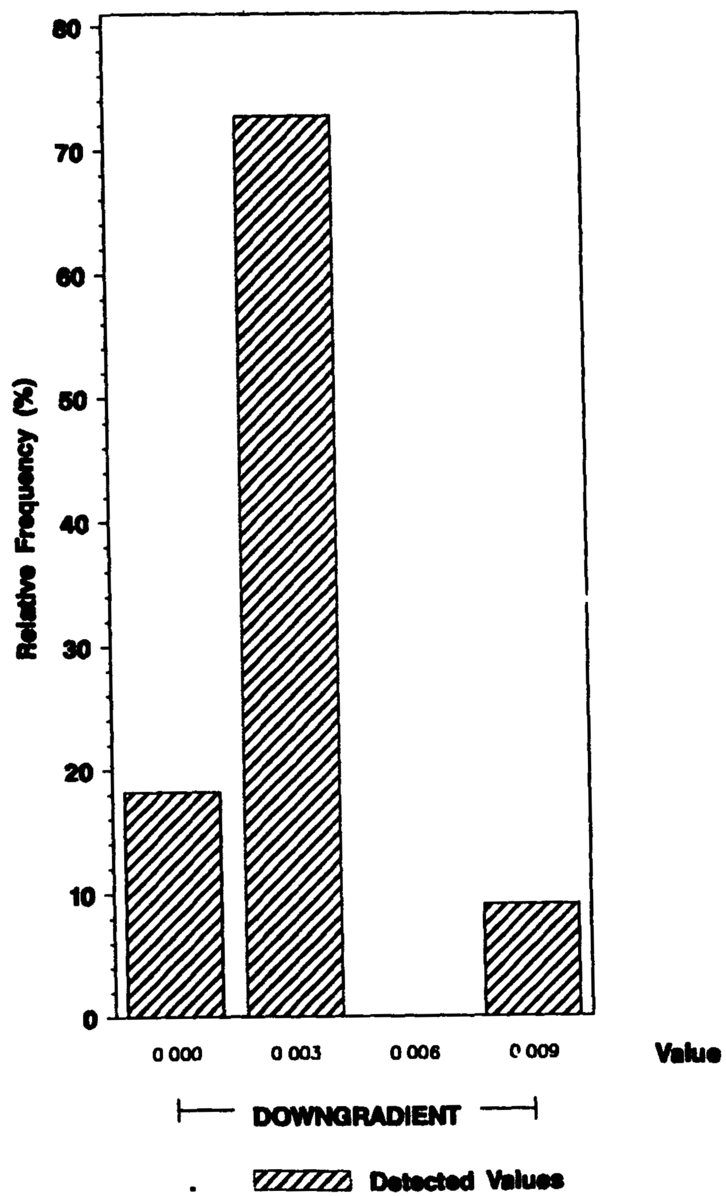
ANALYTE=% SOLIDS



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

AMERICIUM – 241 (pCi/g) In Subsurface Geologic Materials

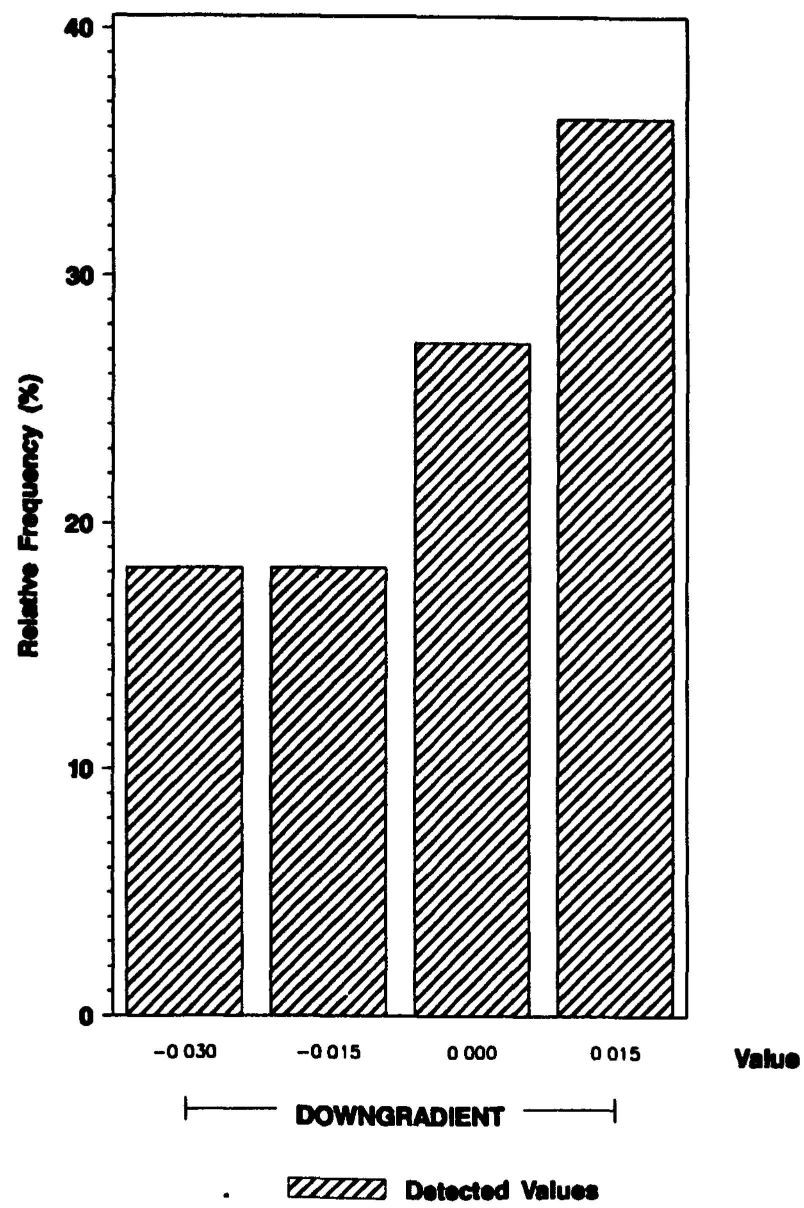
ANALYTE = AMERICIUM – 241



Background KaKI-w vs OU7 KaKI-w Frequency Histogram

CESIUM-137 (pCi/g) in Subsurface Geologic Materials

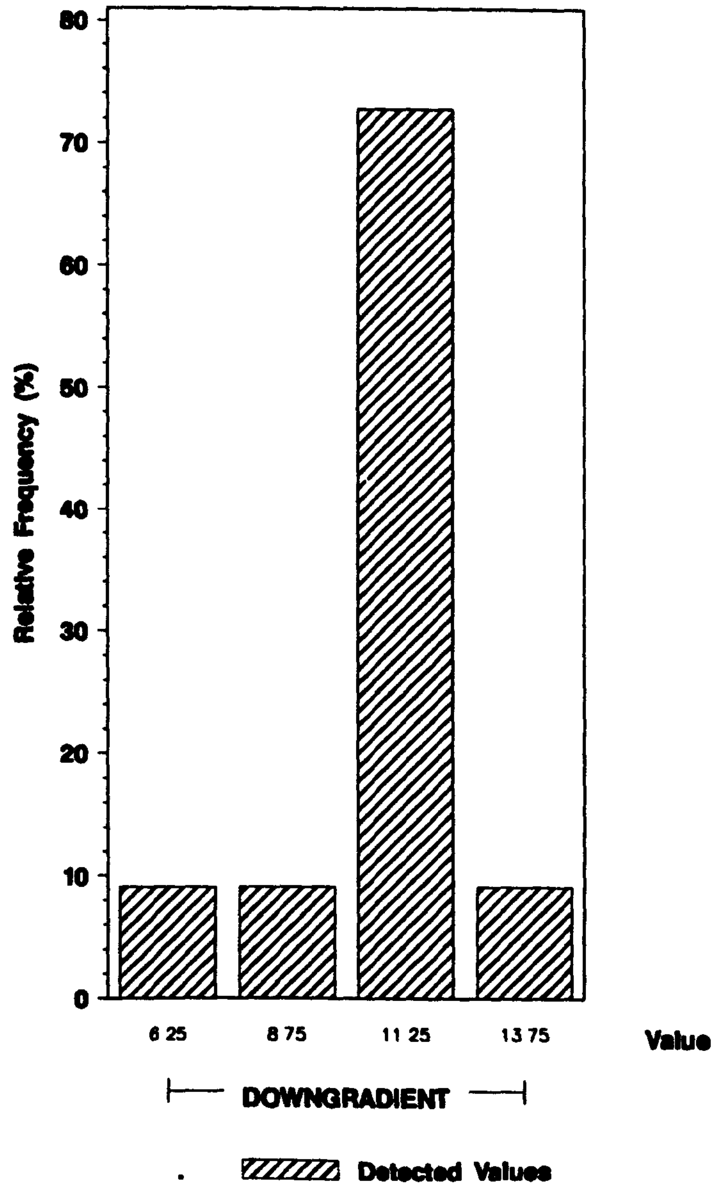
ANALYTE=CESIUM-137



Background KaKl-w vs OU7 KaKl-w Frequency Histogram

GROSS ALPHA (pCi/g) In Subsurface Geologic Materials

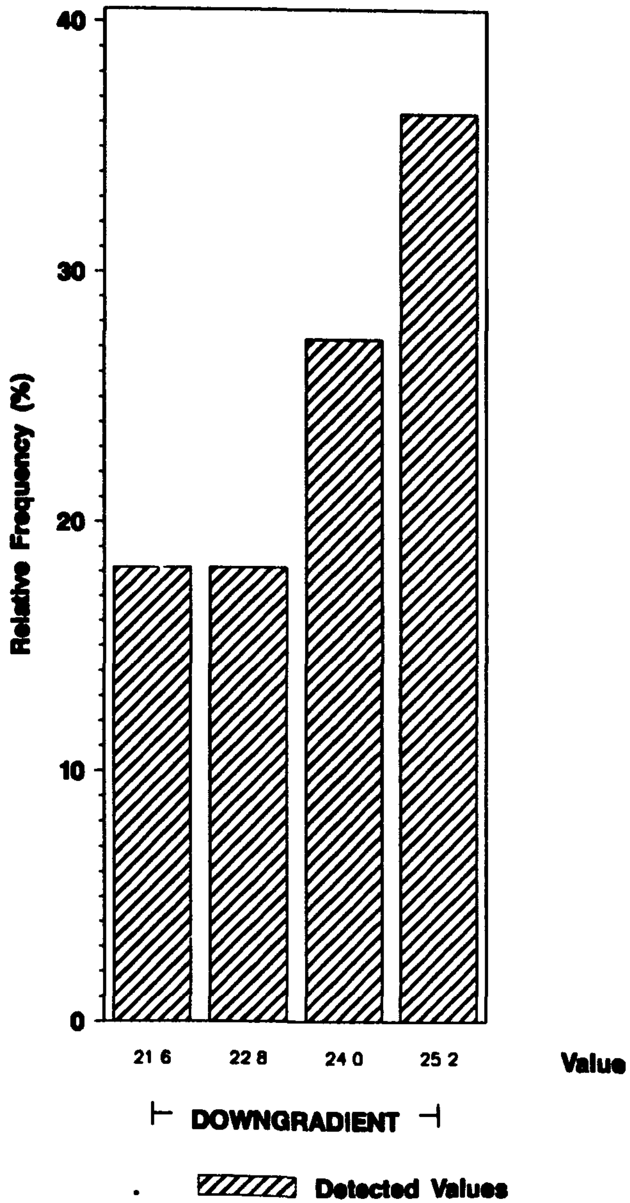
ANALYTE=GROSS ALPHA



Background KaKI–w vs OU7 KaKI–w Frequency Histogram

GROSS BETA (pCi/g) in Subsurface Geologic Materials

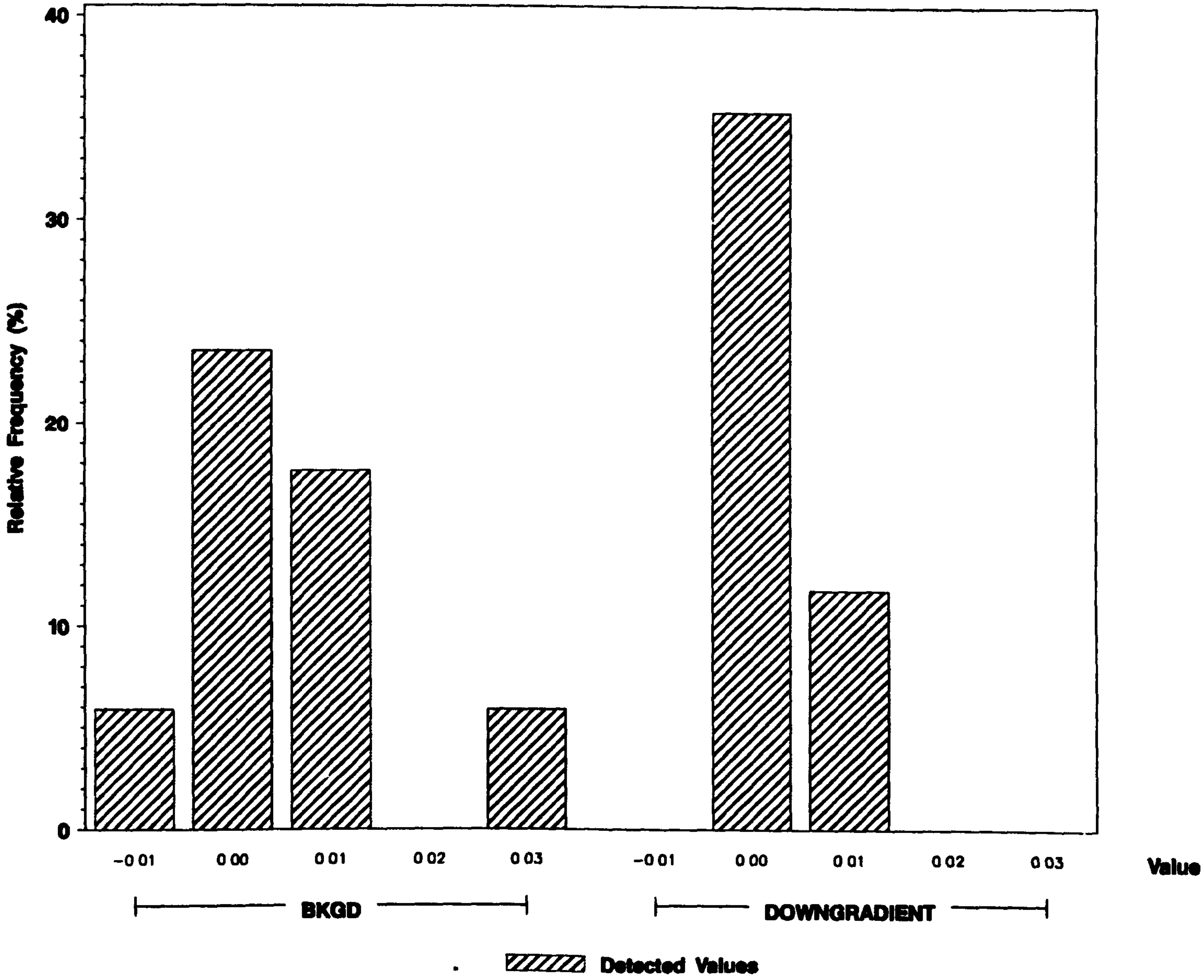
ANALYTE=GROSS BETA



Background KaKI−w vs OU7 KaKI−w Frequency Histogram

PLUTONIUM−239,240 (pCi/g) in Subsurface Geologic Materials

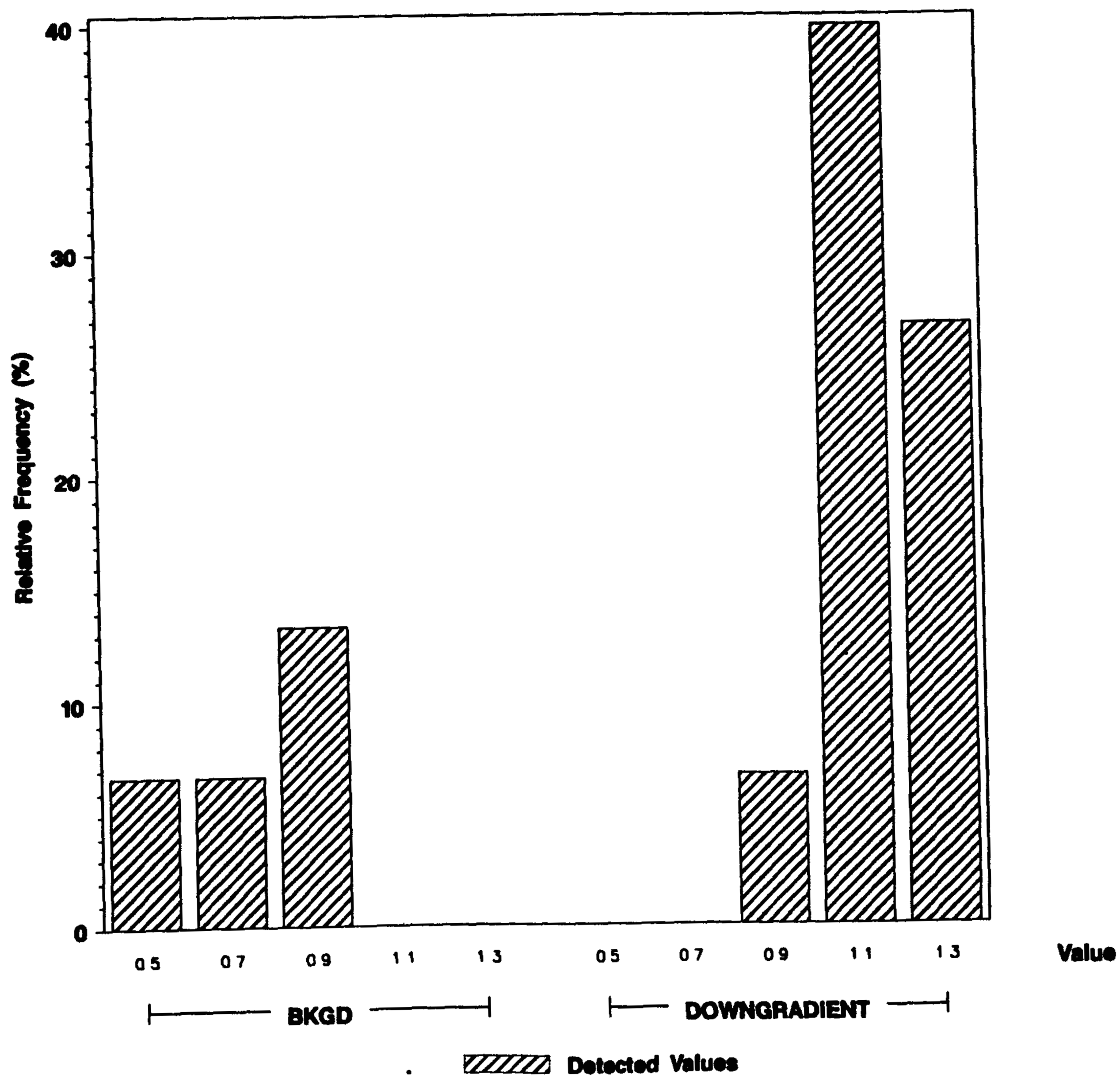
ANALYTE = PLUTONIUM−239,240



Background KaKI–w vs OU7 KaKI–w Frequency Histogram

RADIUM–226 (pCi/g) In Subsurface Geologic Materials

ANALYTE=RADIUM–226



Background KaKl−w vs OU7 KaKl−w Frequency Histogram

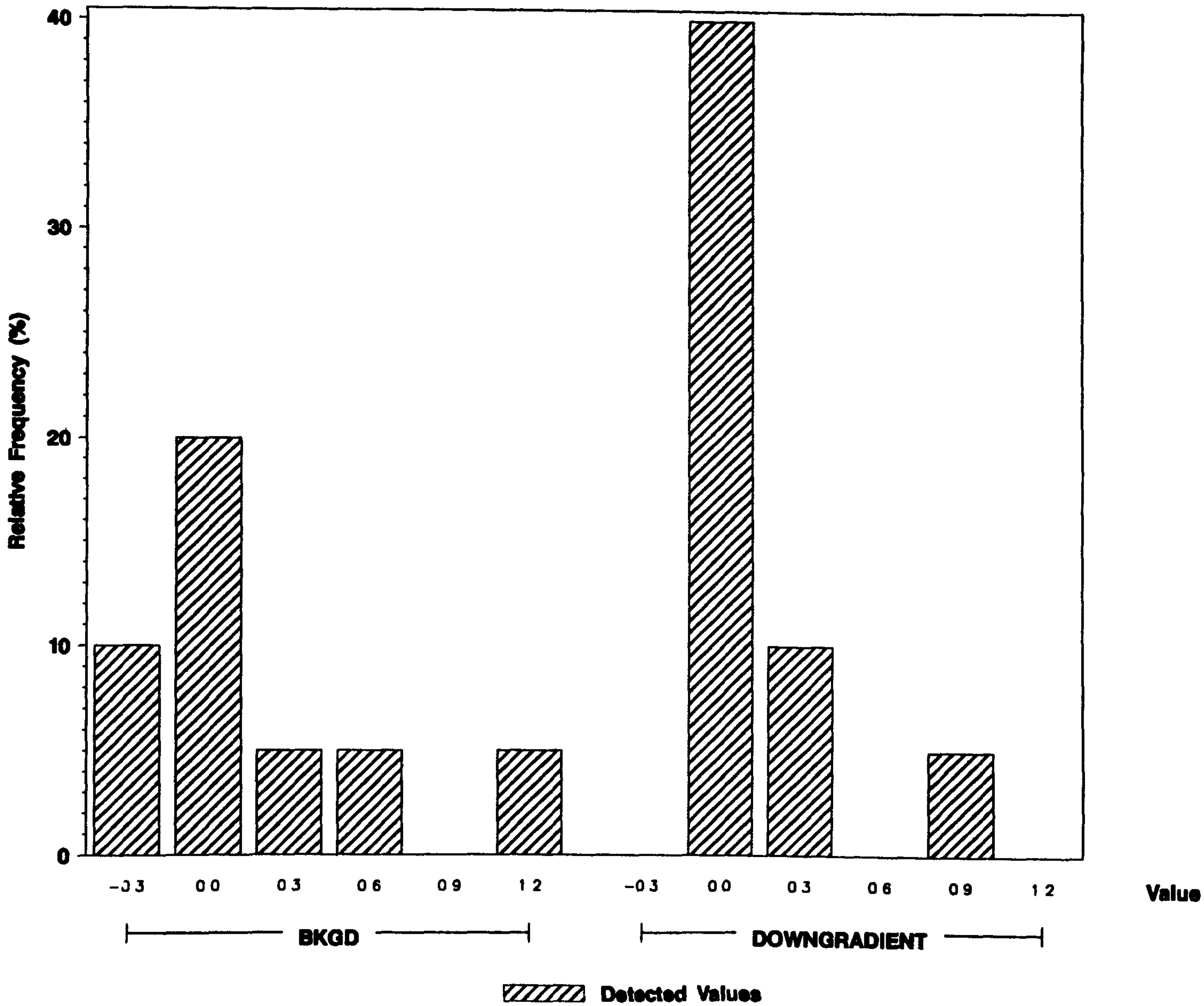
RADIUM−228 (pCi/g) in Subsurface Geologic Materials

ANALYTE=RADIUM−228

Background KaKl – w vs OU7 KaKl – w Frequency Histogram

STRONTIUM – 89,90 (pCi/g) In Subsurface Geologic Materials

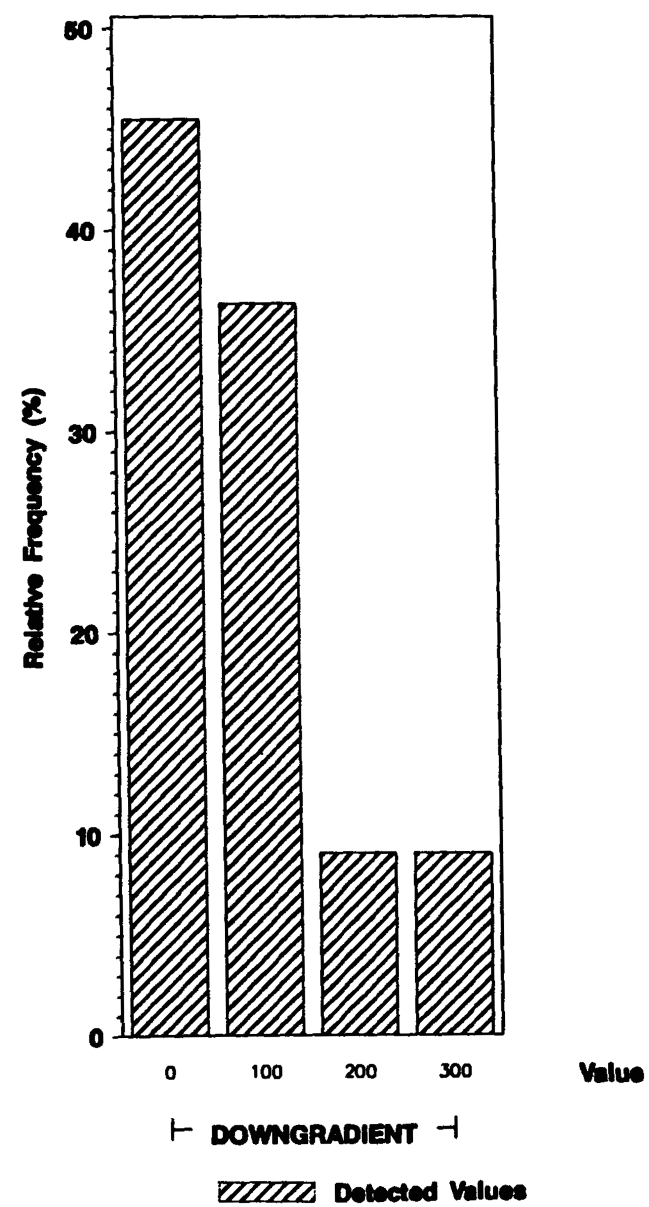
ANALYTE = STRONTIUM – 89,90



Background KaKI – w vs OU7 KaKI – w Frequency Histogram

TRITIUM (pCi/L) in Subsurface Geologic Materials

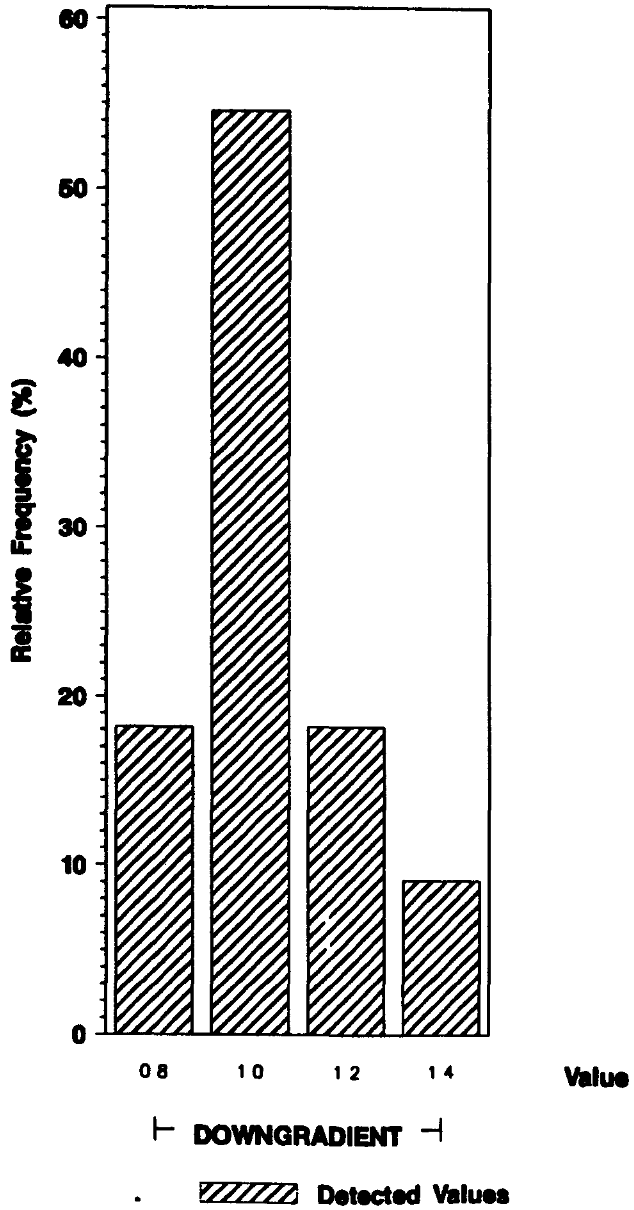
ANALYTE=TRITIUM



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

URANIUM – 233, – 234 (pCi/g) in Subsurface Geologic Materials

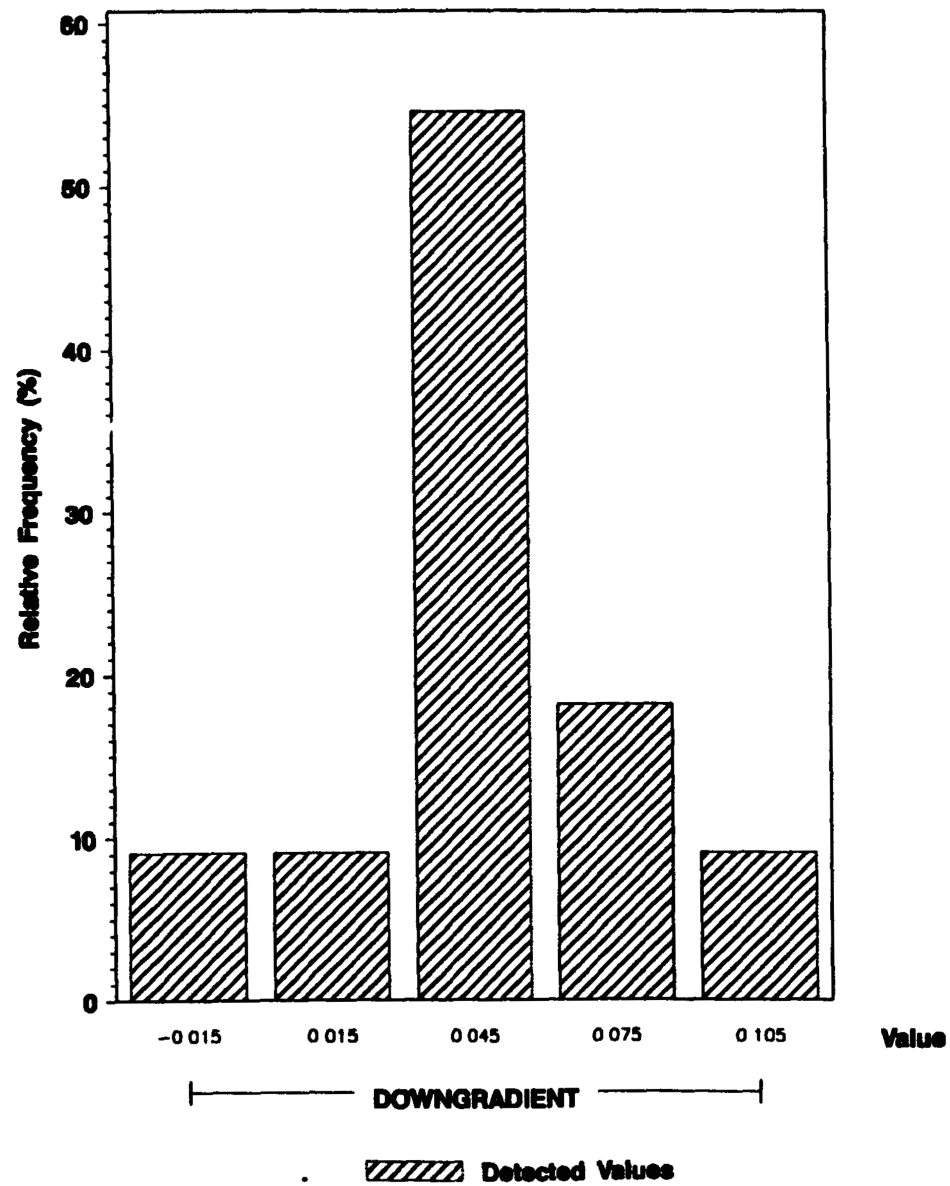
ANALYTE = URANIUM – 233, – 234



Background KaKI – w vs OU7 KaKI – w Frequency Histogram

URANIUM – 235 (pCi/g) in Subsurface Geologic Materials

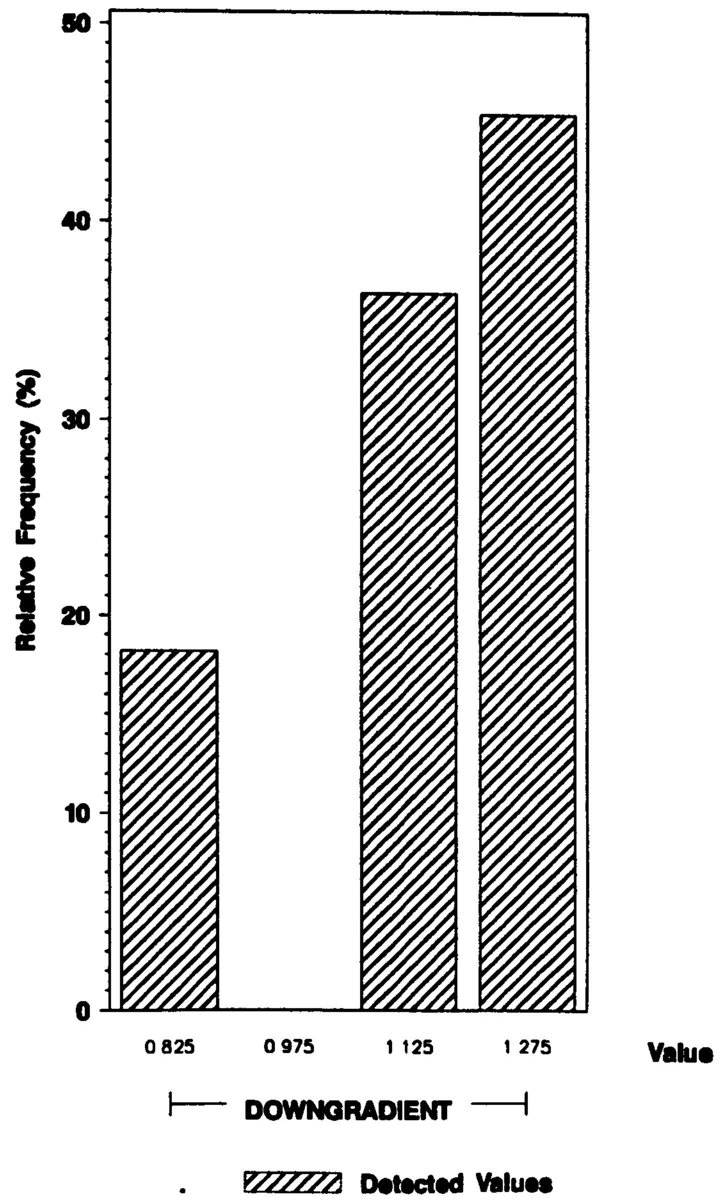
ANALYTE = URANIUM – 235



Background KaKl-w vs OU7 KaKl-w Frequency Histogram

URANIUM-238 (pCi/g) in Subsurface Geologic Materials

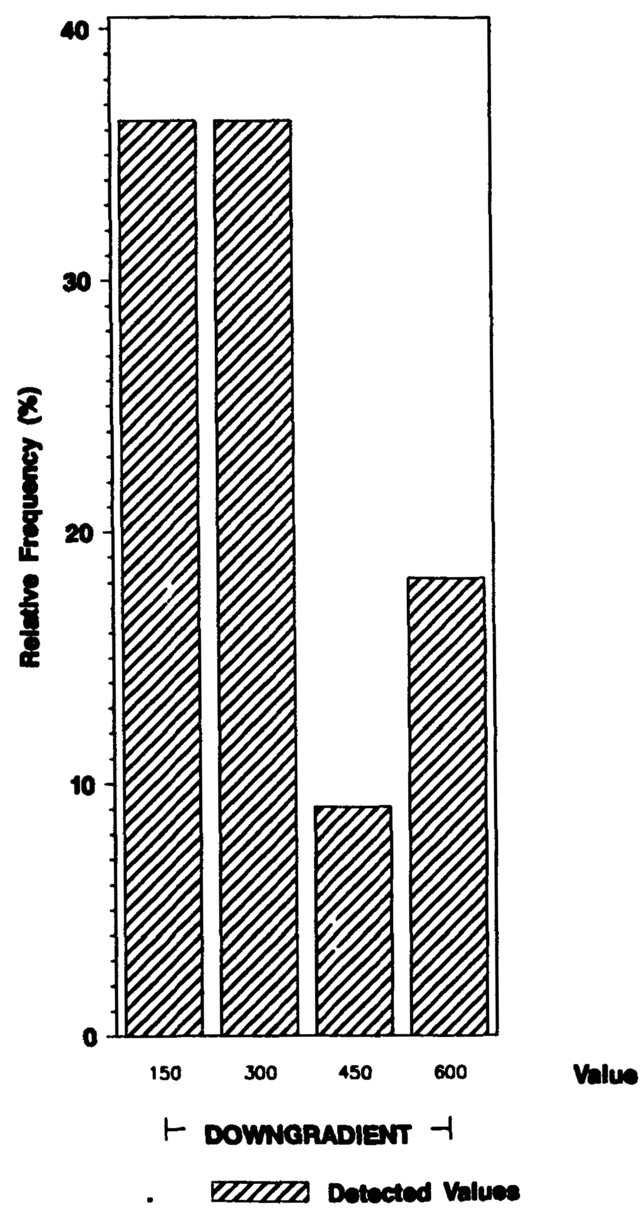
ANALYTE=URANIUM-238



Background KaKl – w vs OU7 KaKl – w Frequency Histogram

TOLUENE (ug/Kg) In Subsurface Geologic Materials

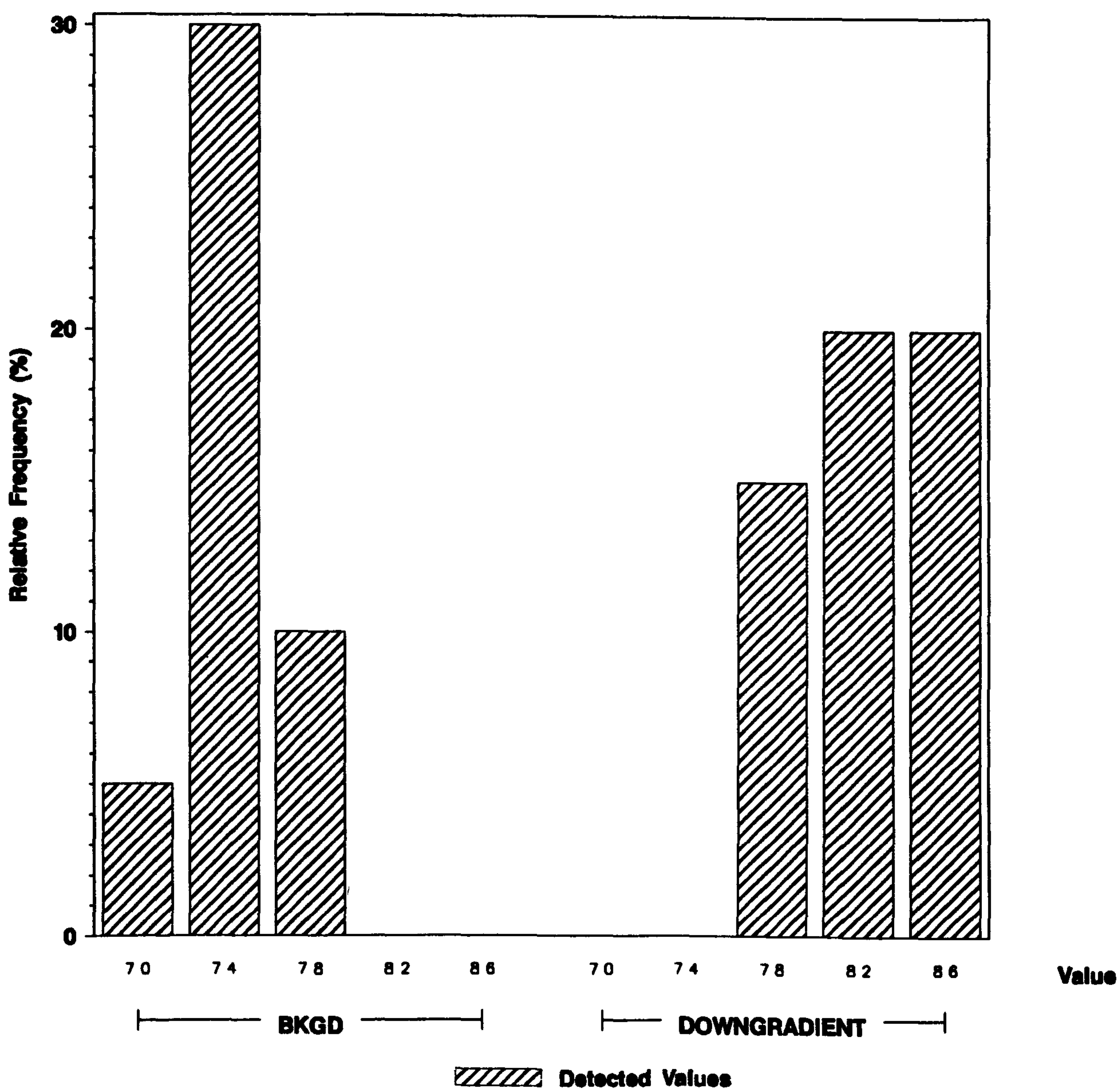
ANALYTE = TOLUENE



Background KaKl–w vs OU7 KaKl–w Frequency Histogram

pH in Subsurface Geologic Materials

ANALYTE=pH



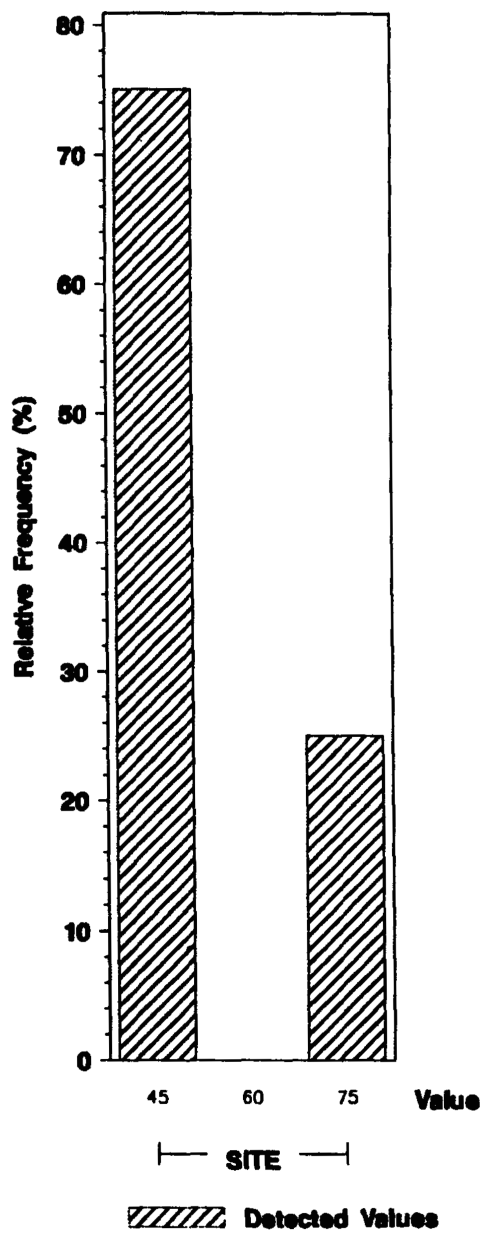
Sediments

Background vs. East Landfill Pond

Background vs East Landfill Pond Sediments Frequency Histogram

% SOLIDS in Sediments

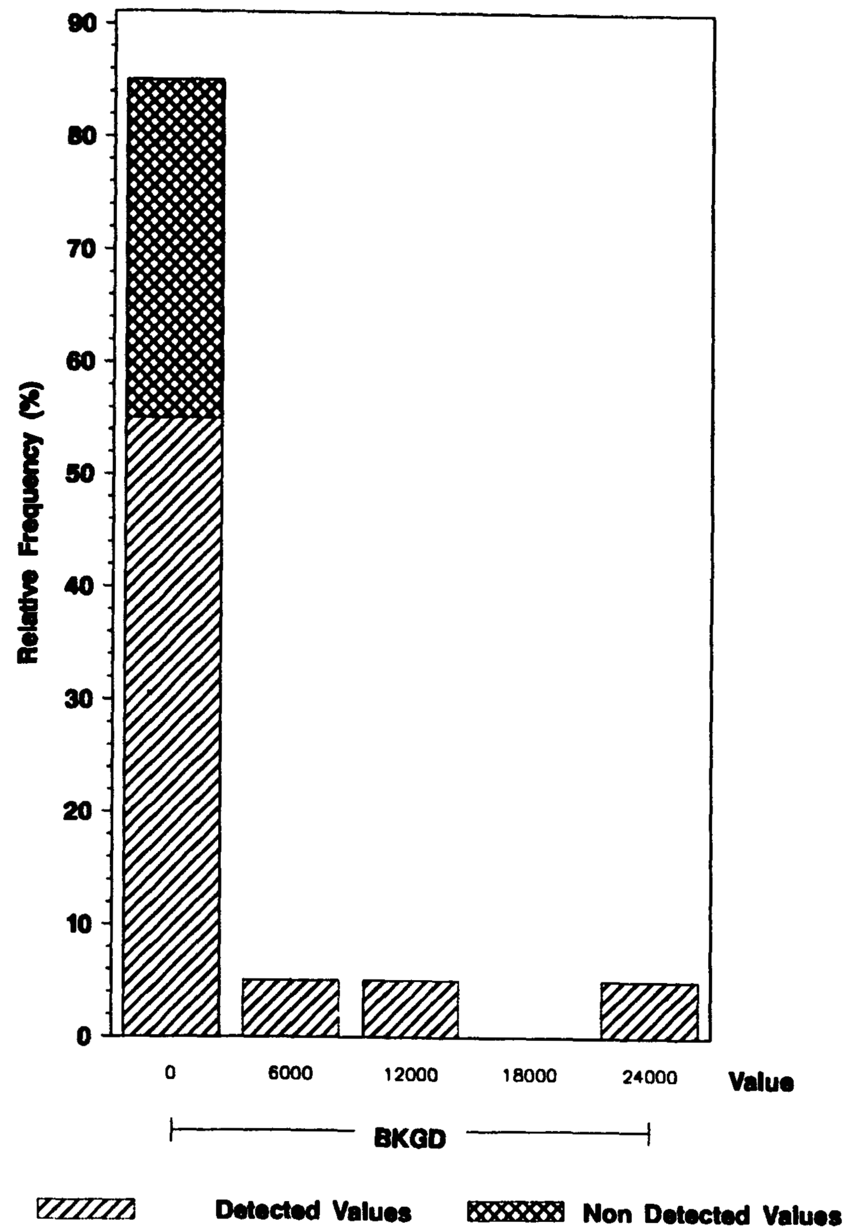
ANALYTE=% SOLIDS



Background vs East Landfill Pond Sediments Frequency Histogram

ALKALINITY AS CACO3 (mg/Kg) In Sediments

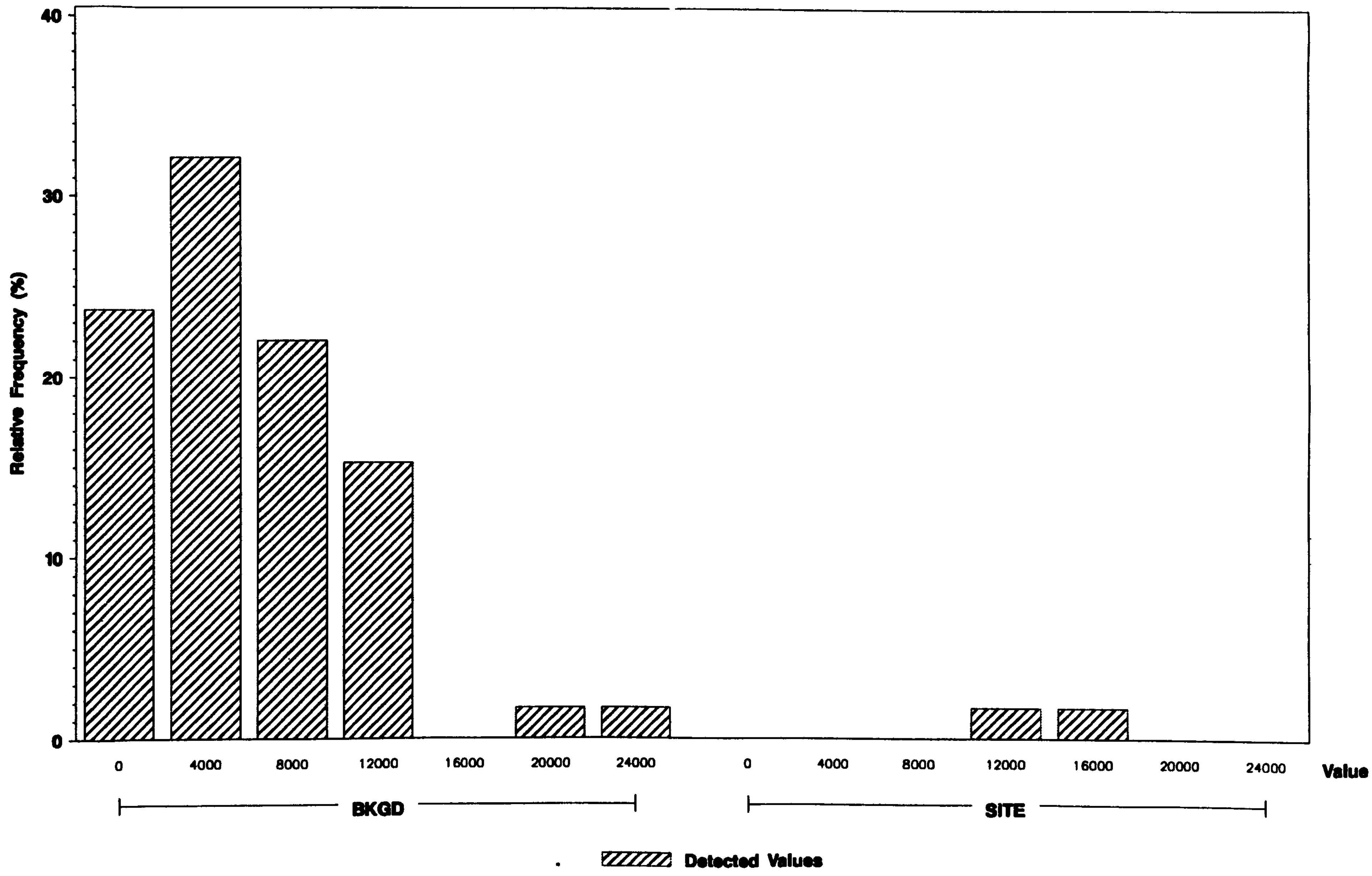
ANALYTE=ALKALINITY AS CACO3



Background vs East Landfill Pond Sediments Frequency Histogram

ALUMINUM (mg/Kg) in Sediments

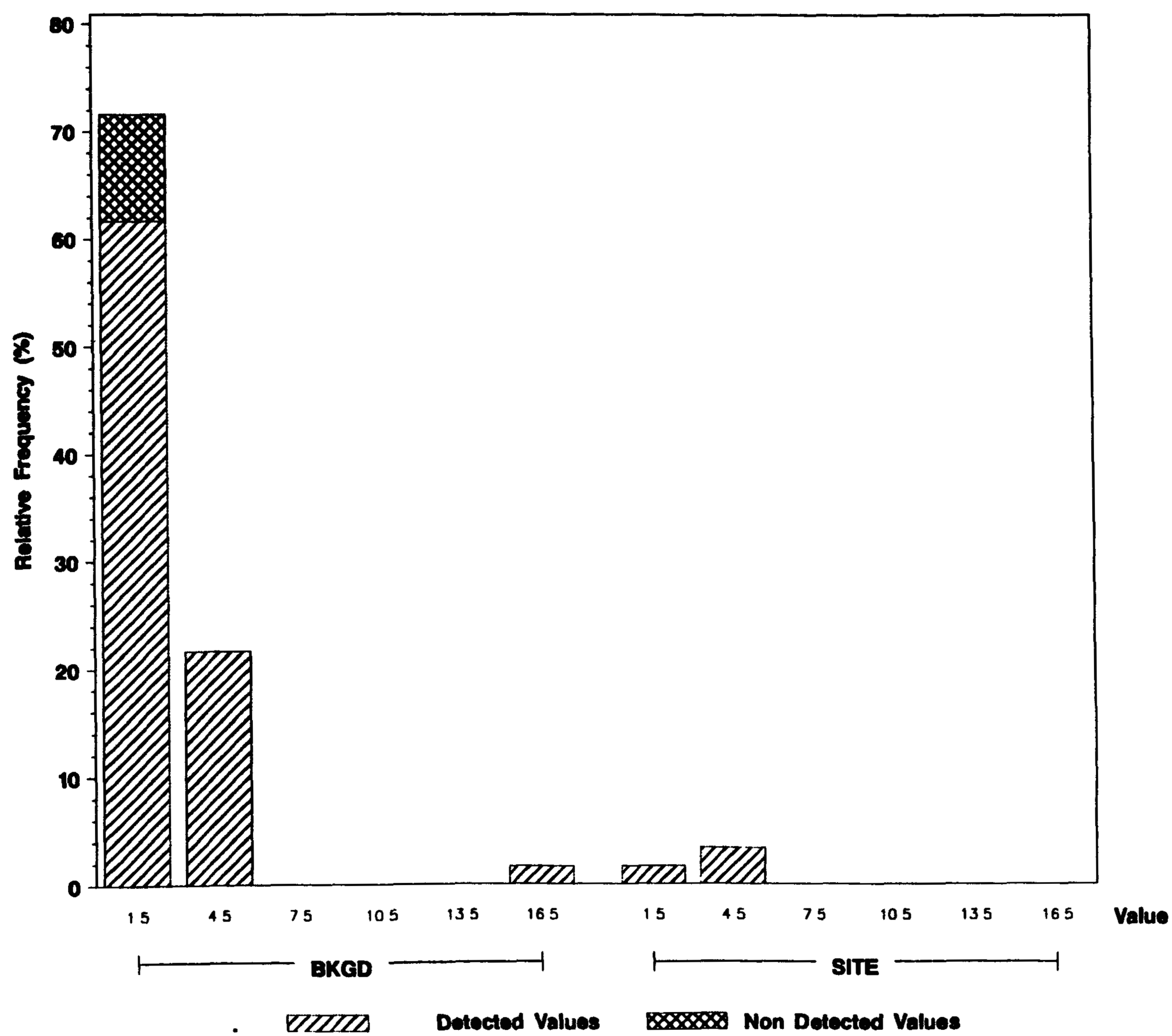
ANALYTE = ALUMINUM



Background vs East Landfill Pond Sediments Frequency Histogram

ARSENIC (mg/Kg) in Sediments

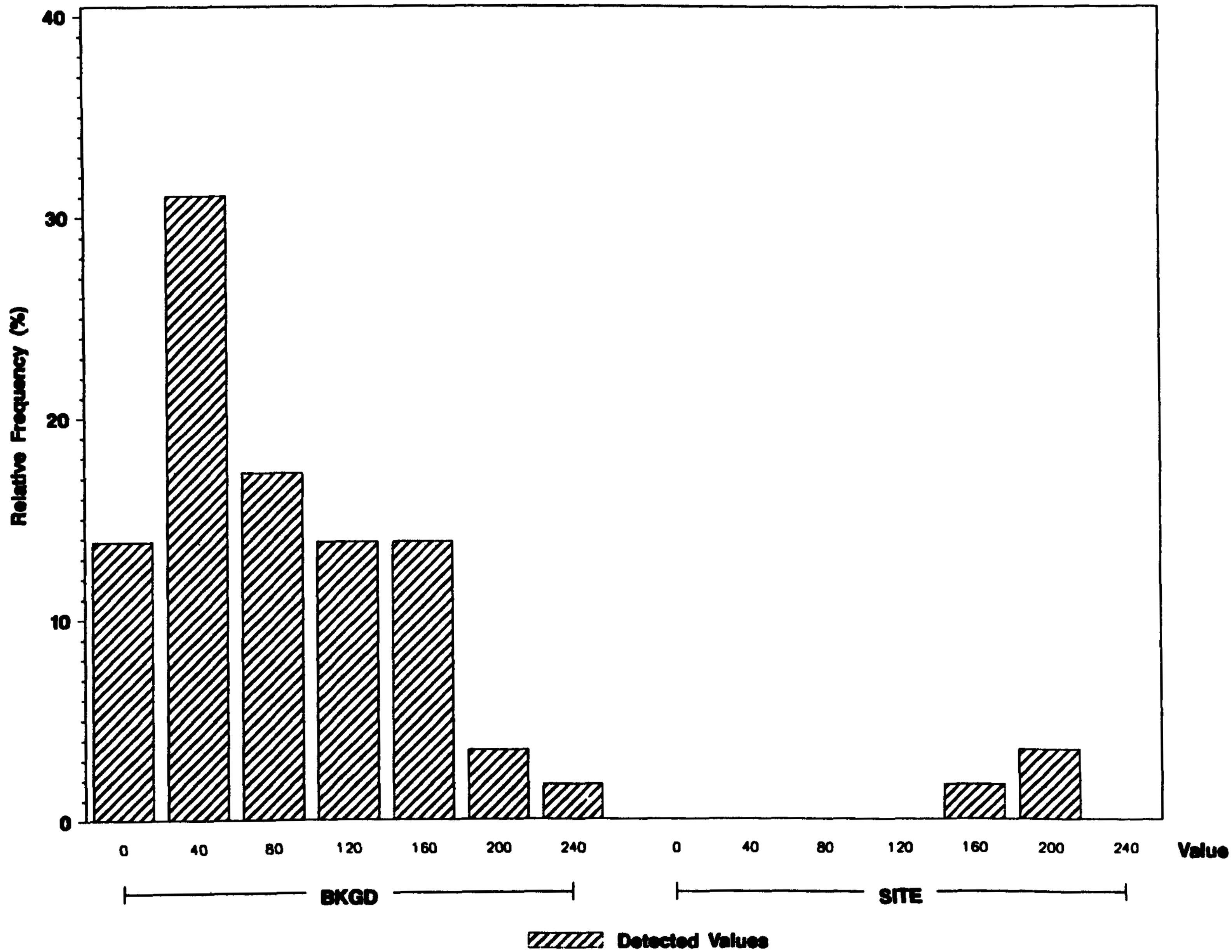
ANALYTE=ARSENIC



Background vs East Landfill Pond Sediments Frequency Histogram

BARIUM (mg/Kg) in Sediments

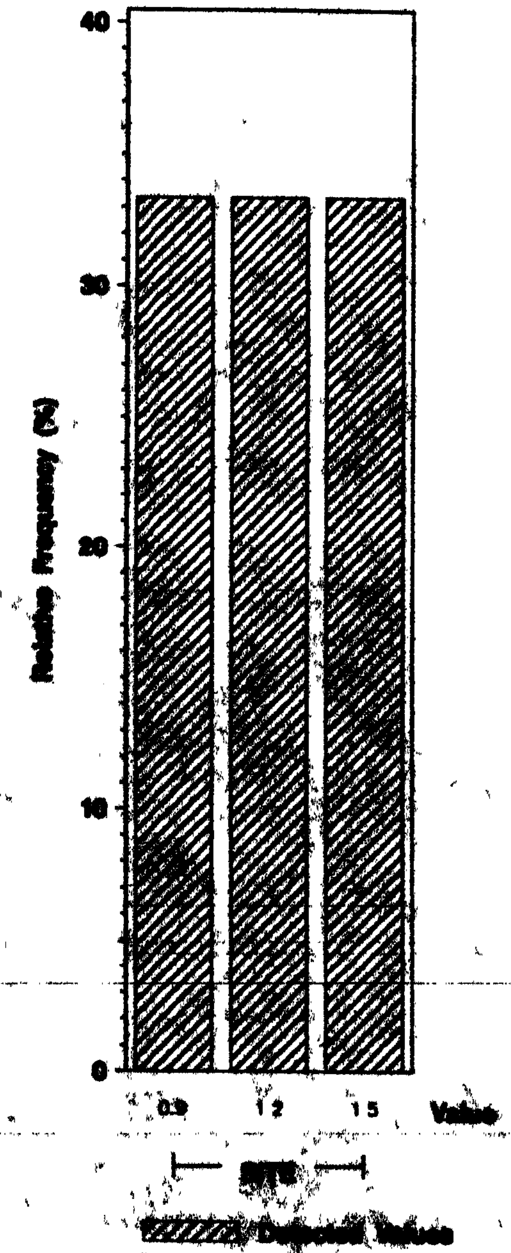
ANALYTE=BARIUM



Background vs East Landfill Pond Sediments Frequency Histogram

BERYLLIUM (mg/Kg) In Sediments

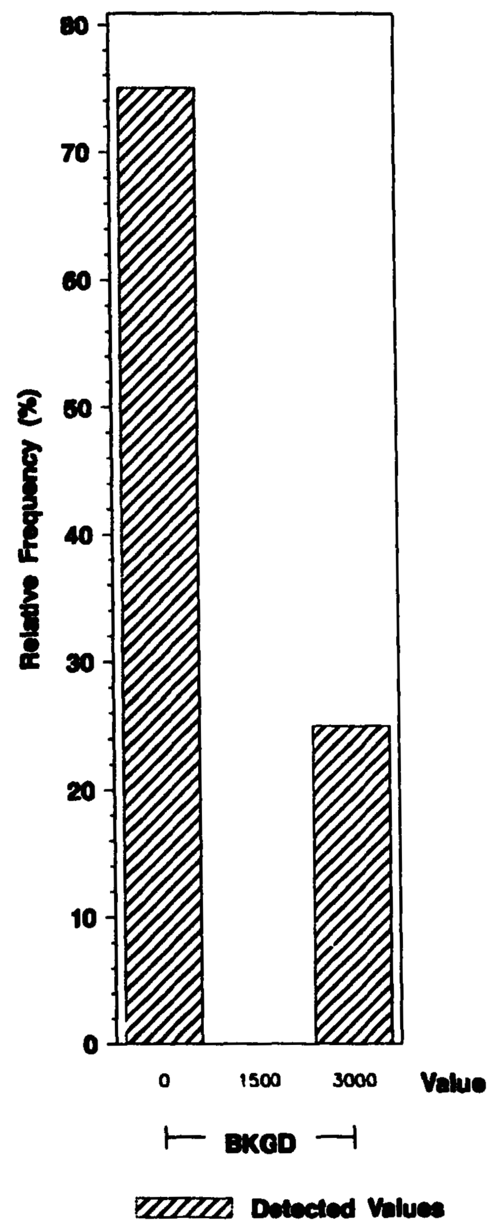
ANALYTE = BERYLLIUM



Background vs East Landfill Pond Sediments Frequency Histogram

BICARBONATE AS CACO3 (mg/Kg) In Sediments

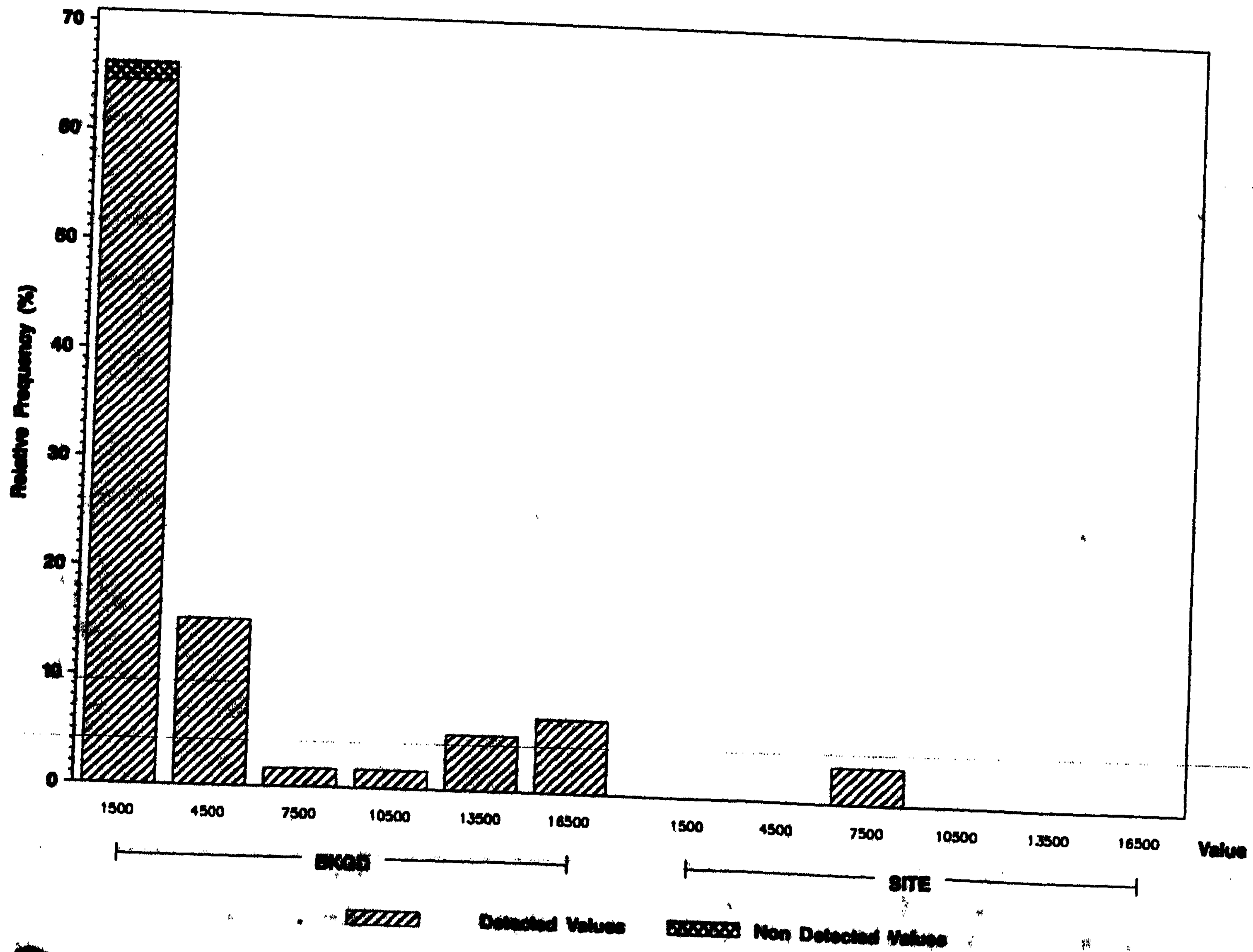
ANALYTE=BICARBONATE AS CACO3



Background vs East Landfill Pond Sediments Frequency Histogram

CALCIUM (mg/Kg) In Sediments

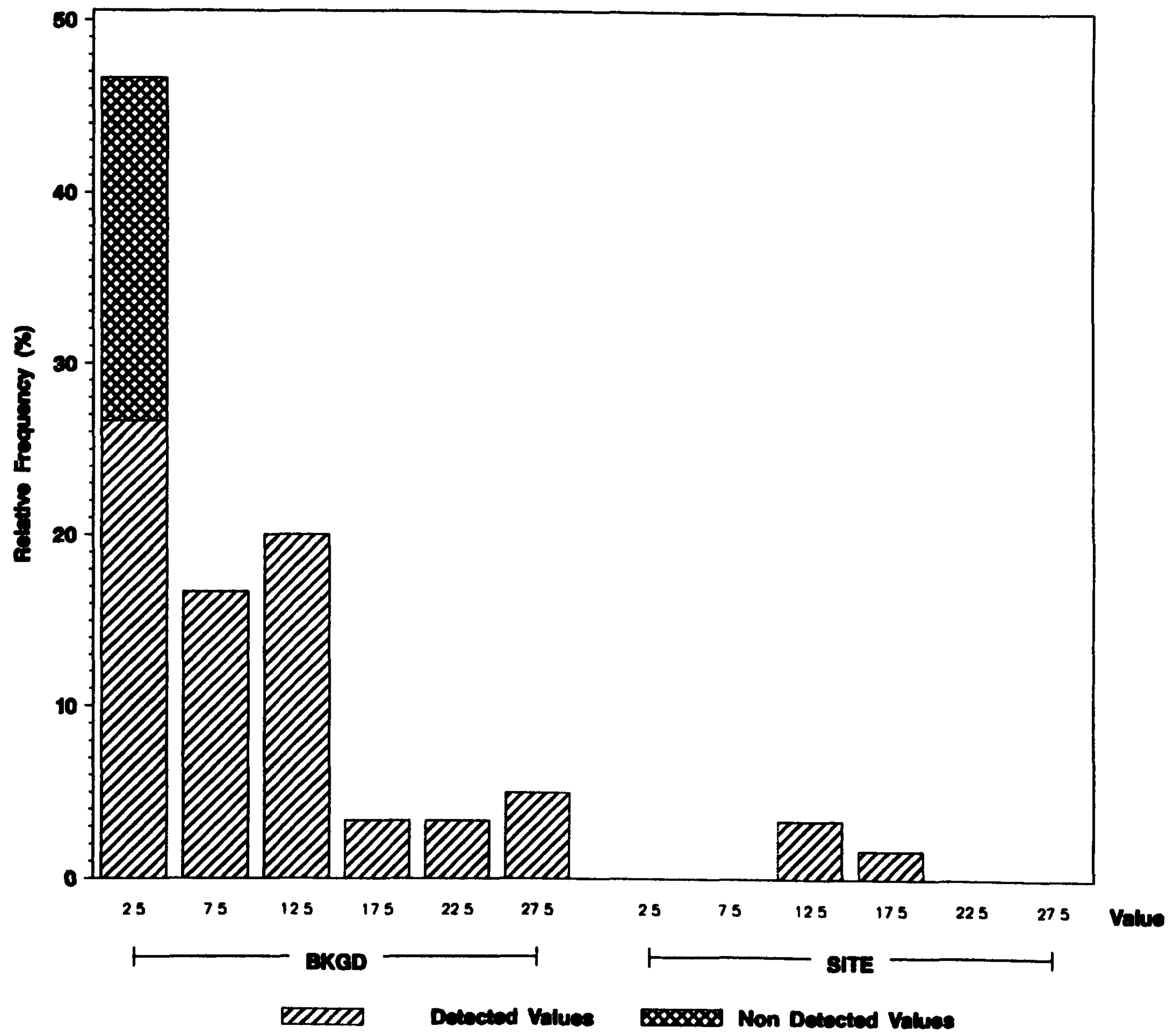
ANALYTE=CALCIUM



Background vs East Landfill Pond Sediments Frequency Histogram

CHROMIUM (mg/Kg) in Sediments

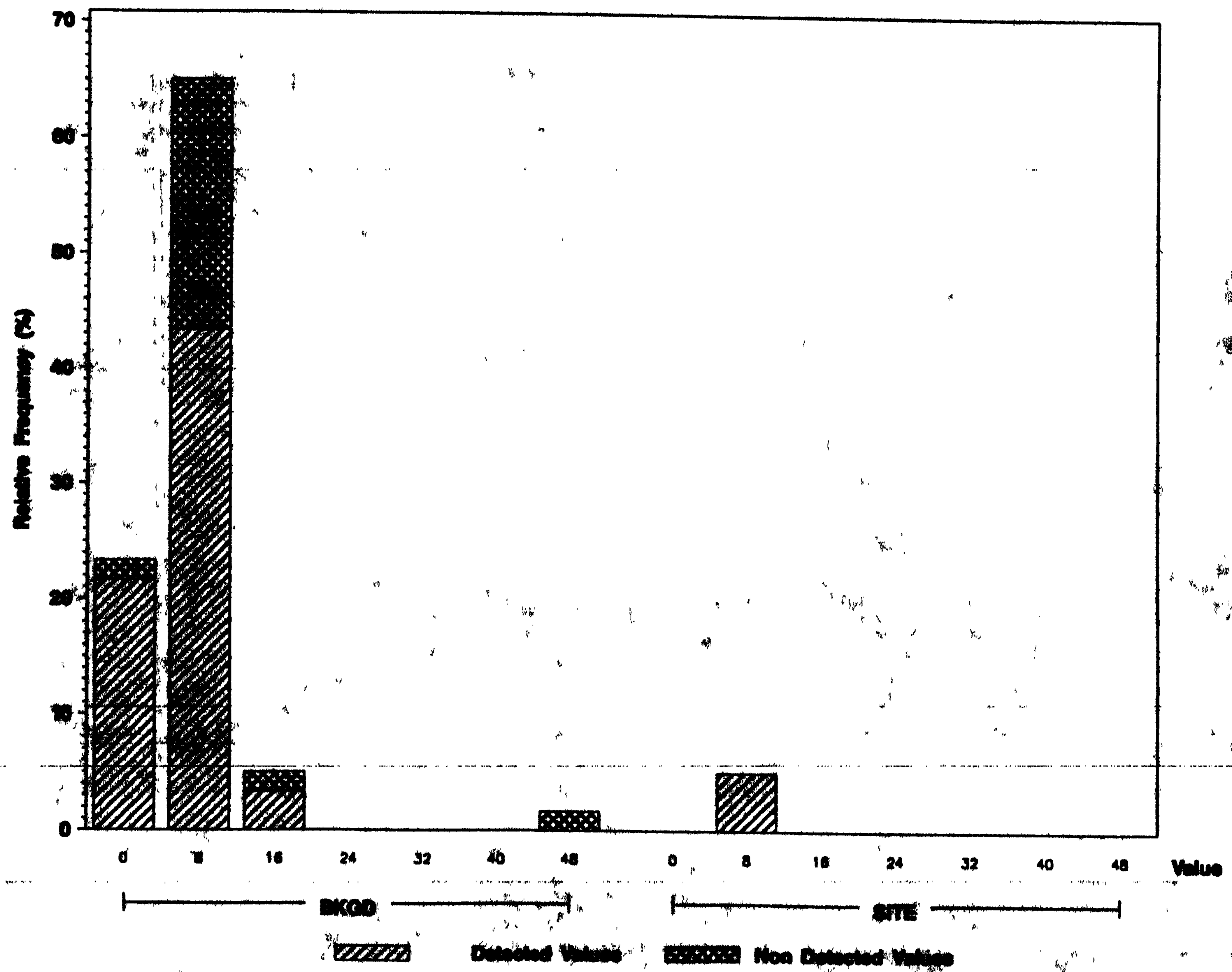
ANALYTE=CHROMIUM



Background vs East Landfill Pond Sediments Frequency Histogram

COBALT (mg/Kg) In Sediments

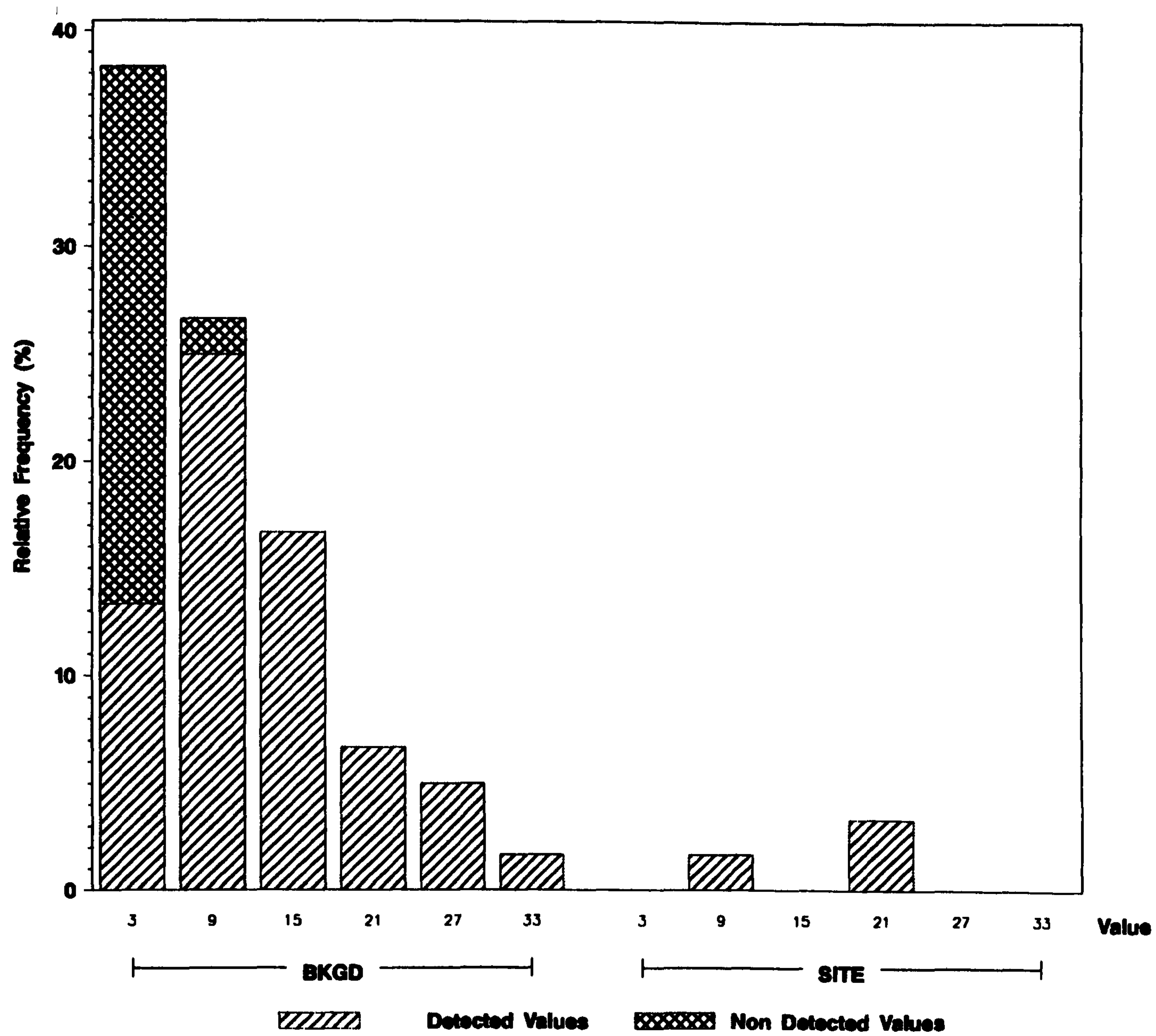
ANALYTE=COBALT



Background vs East Landfill Pond Sediments Frequency Histogram

COPPER (mg/Kg) in Sediments

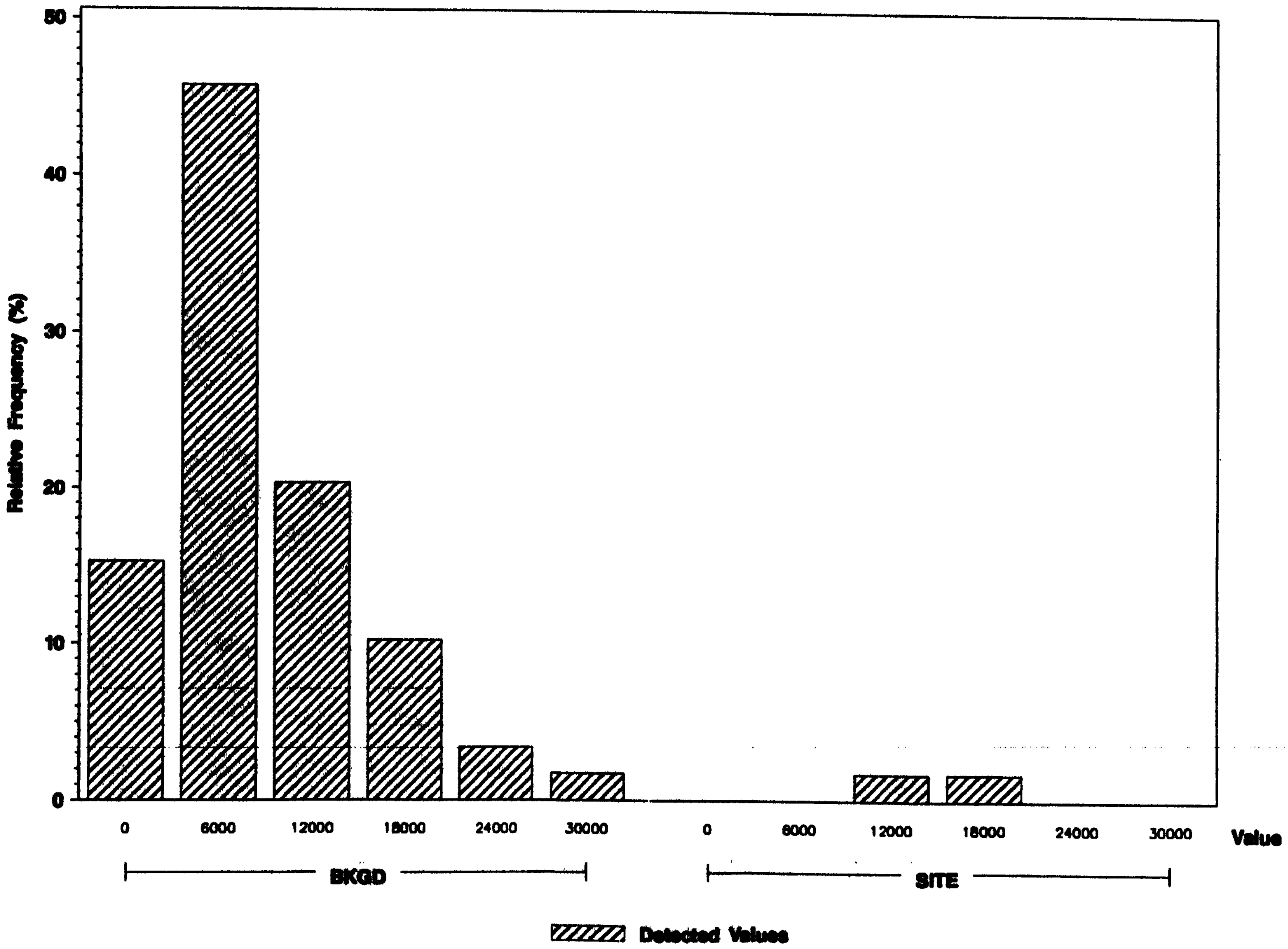
ANALYTE=COPPER



Background vs East Landfill Pond Sediments Frequency Histogram

IRON (mg/Kg) in Sediments

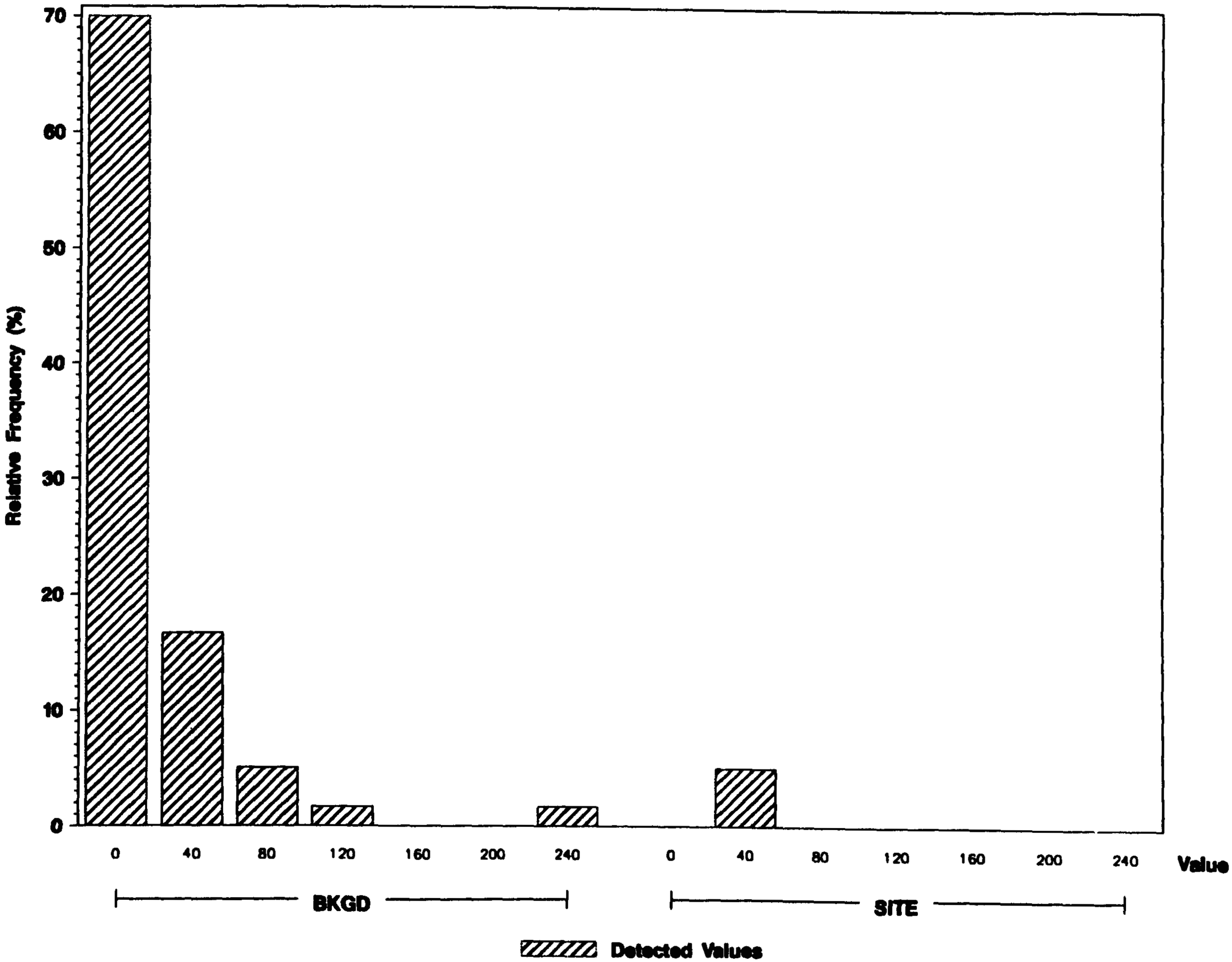
ANALYTE=IRON



Background vs East Landfill Pond Sediments Frequency Histogram

LEAD (mg/Kg) in Sediments

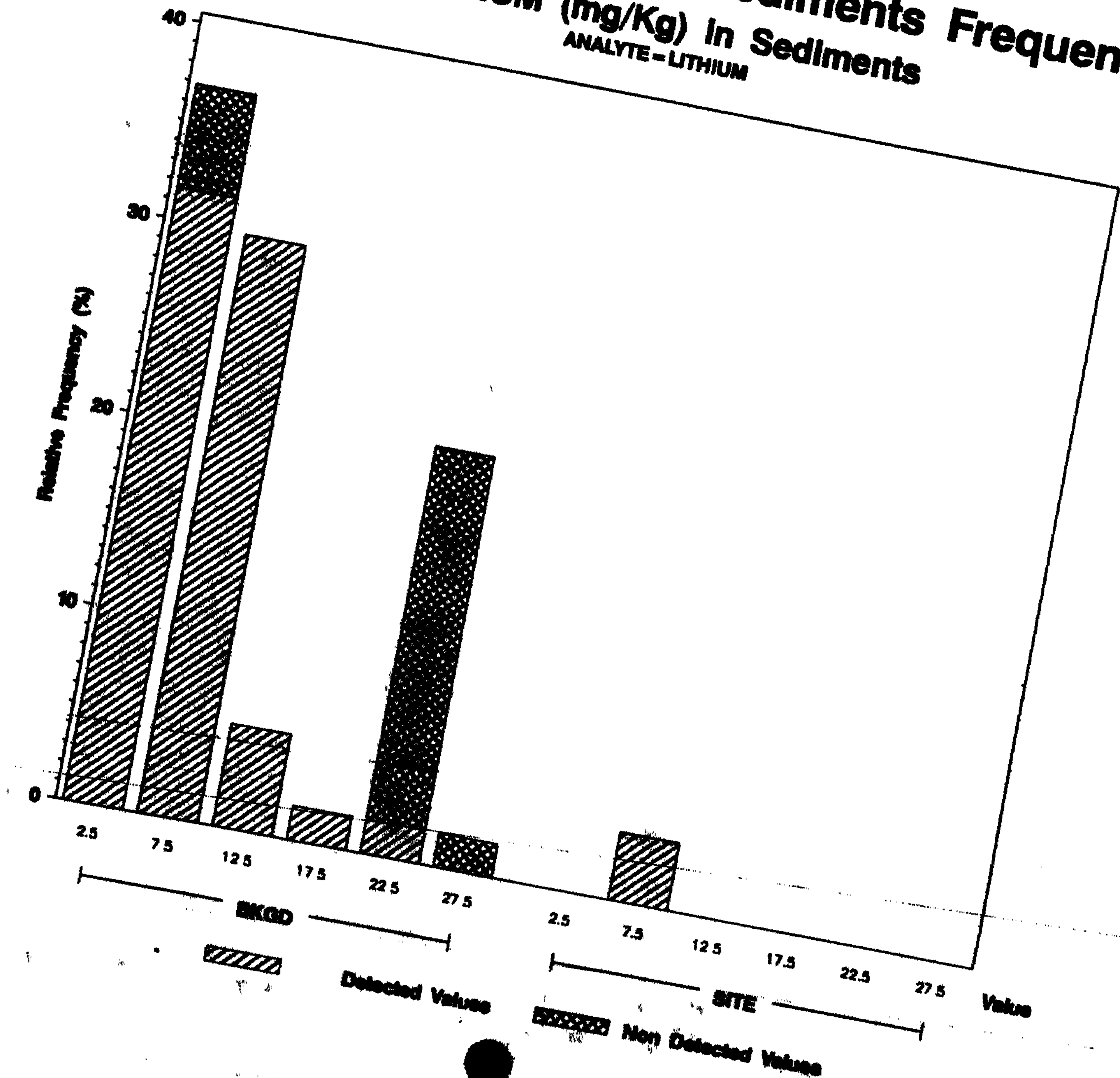
ANALYTE=LEAD



...ound vs East Landfill Pond Sediments Frequency Histogram

LITHIUM (mg/Kg) in Sediments

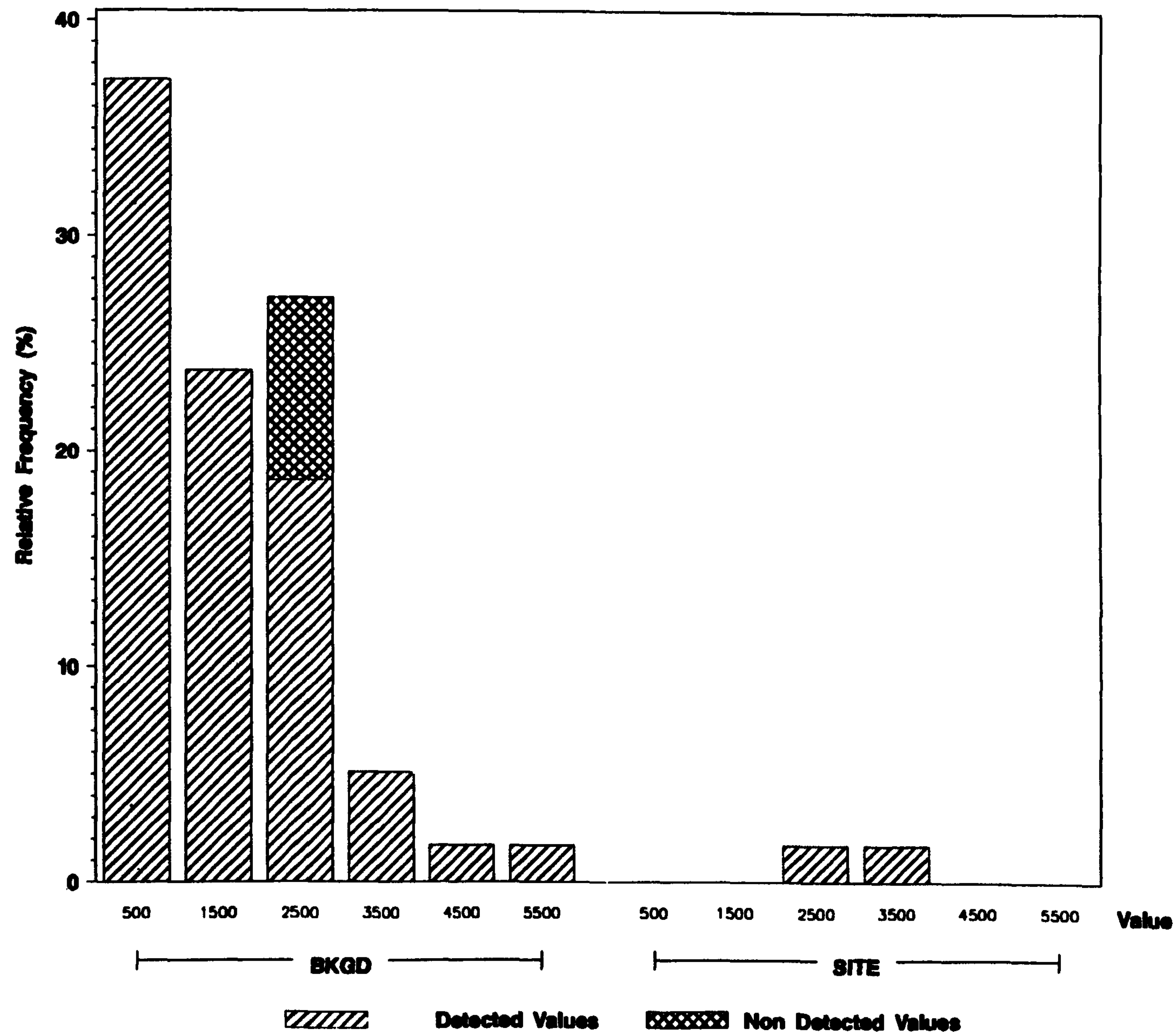
ANALYTE=LITHIUM



Background vs East Landfill Pond Sediments Frequency Histogram

MAGNESIUM (mg/Kg) in Sediments

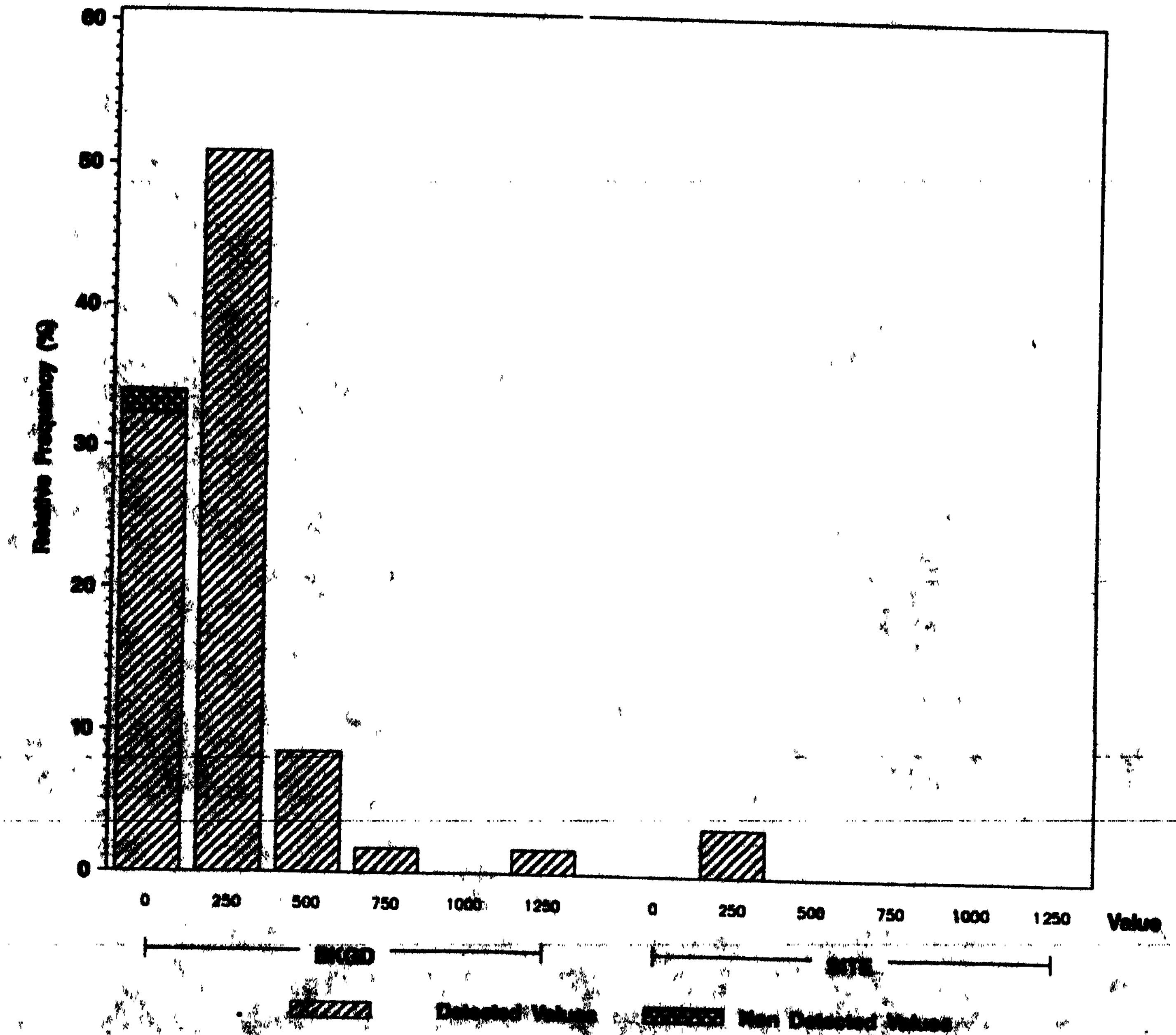
ANALYTE = MAGNESIUM



Background vs East Landfill Pond Sediments Frequency Histogram

MANGANESE (mg/Kg) in Sediments

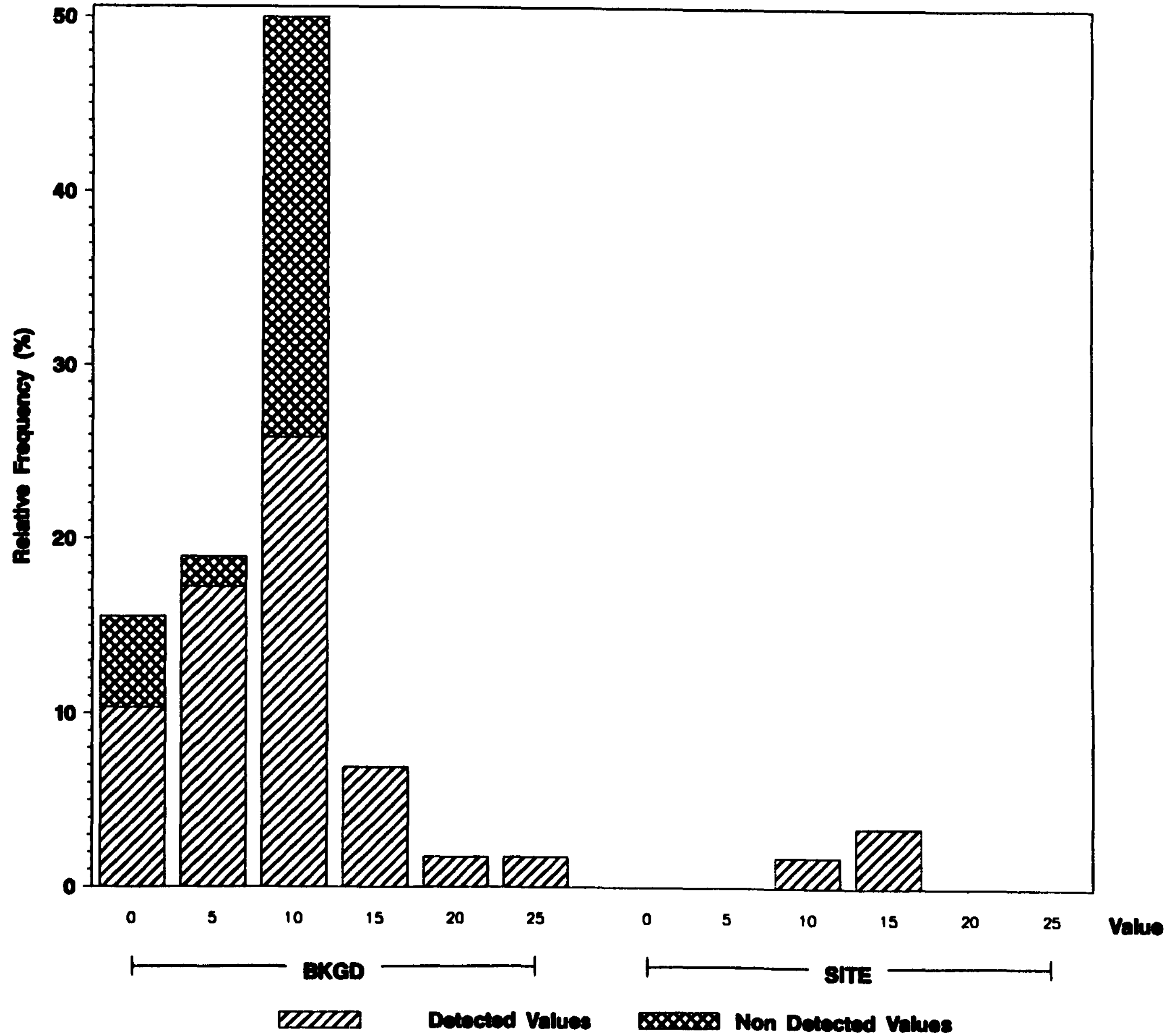
ANALYTE = MANGANESE



Background vs East Landfill Pond Sediments Frequency Histogram

NICKEL (mg/Kg) in Sediments

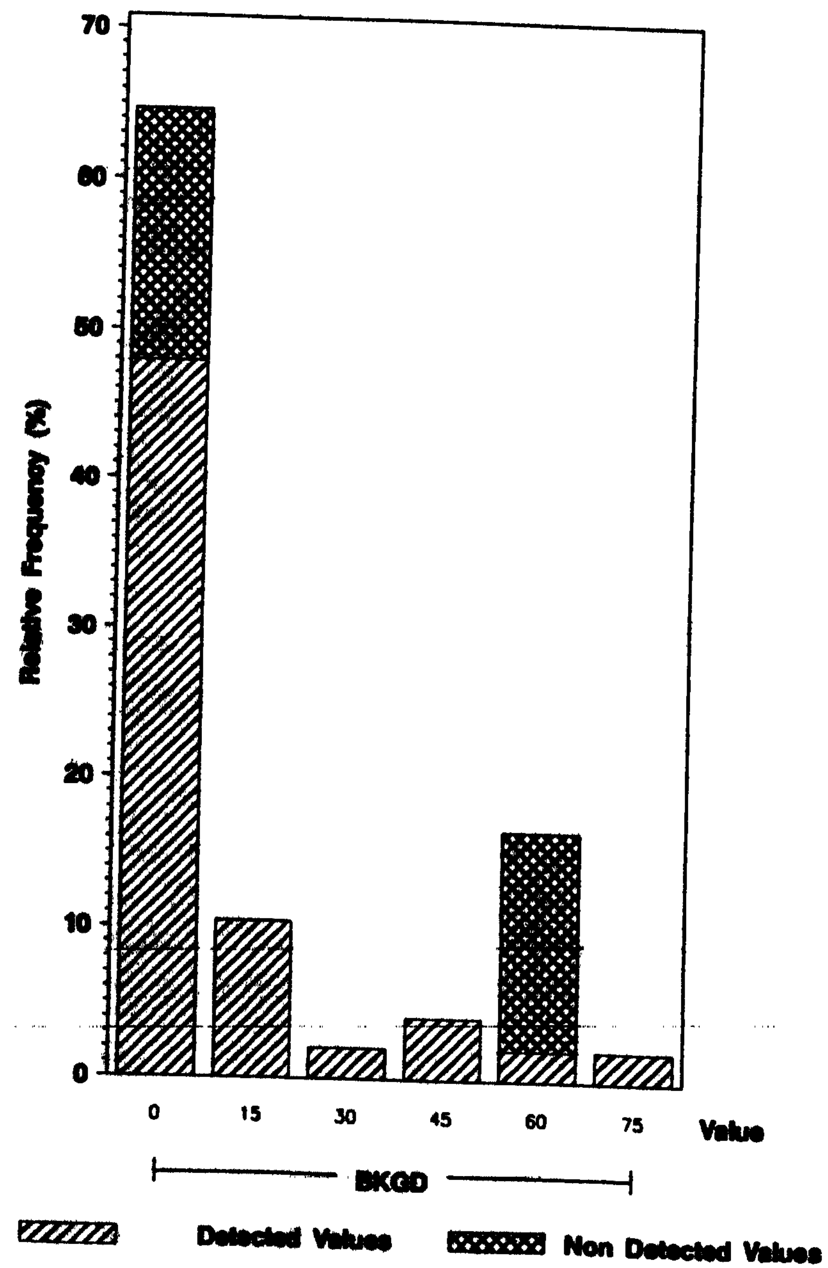
ANALYTE=NICKEL



Background vs East Landfill Pond Sediments Frequency Histogram

NITRATE/NITRITE (mg/Kg) In Sediments

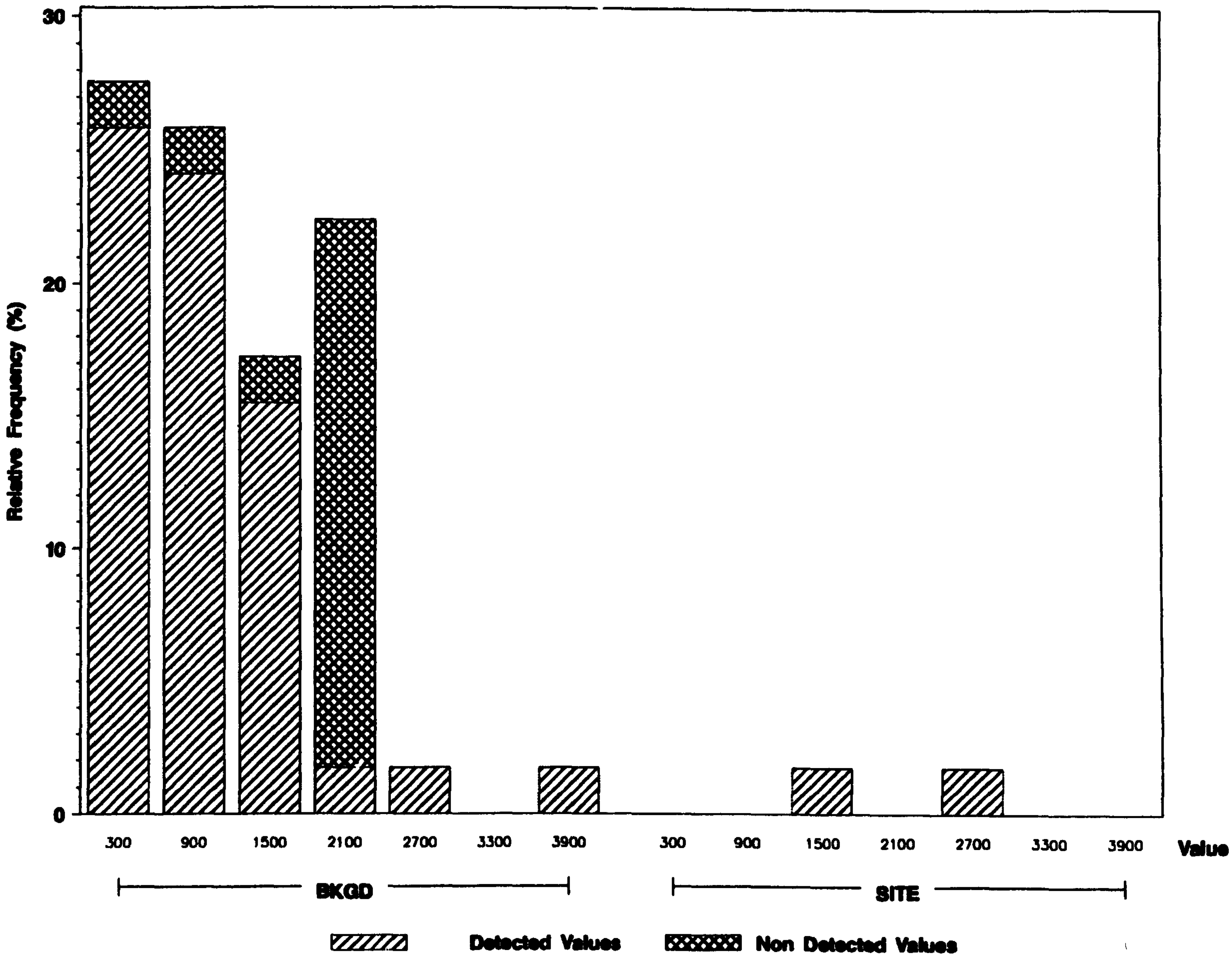
ANALYTE = NITRATE/NITRITE



Background vs East Landfill Pond Sediments Frequency Histogram

POTASSIUM (mg/Kg) In Sediments

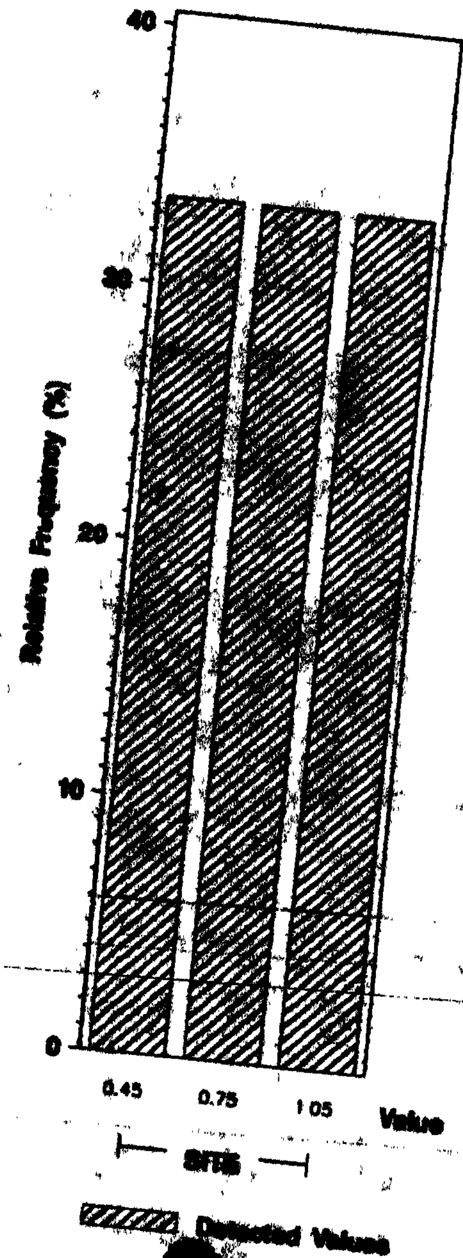
ANALYTE=POTASSIUM



Background vs East Landfill Pond Sediments Frequency Histogram

SELENIUM (mg/Kg) in Sediments

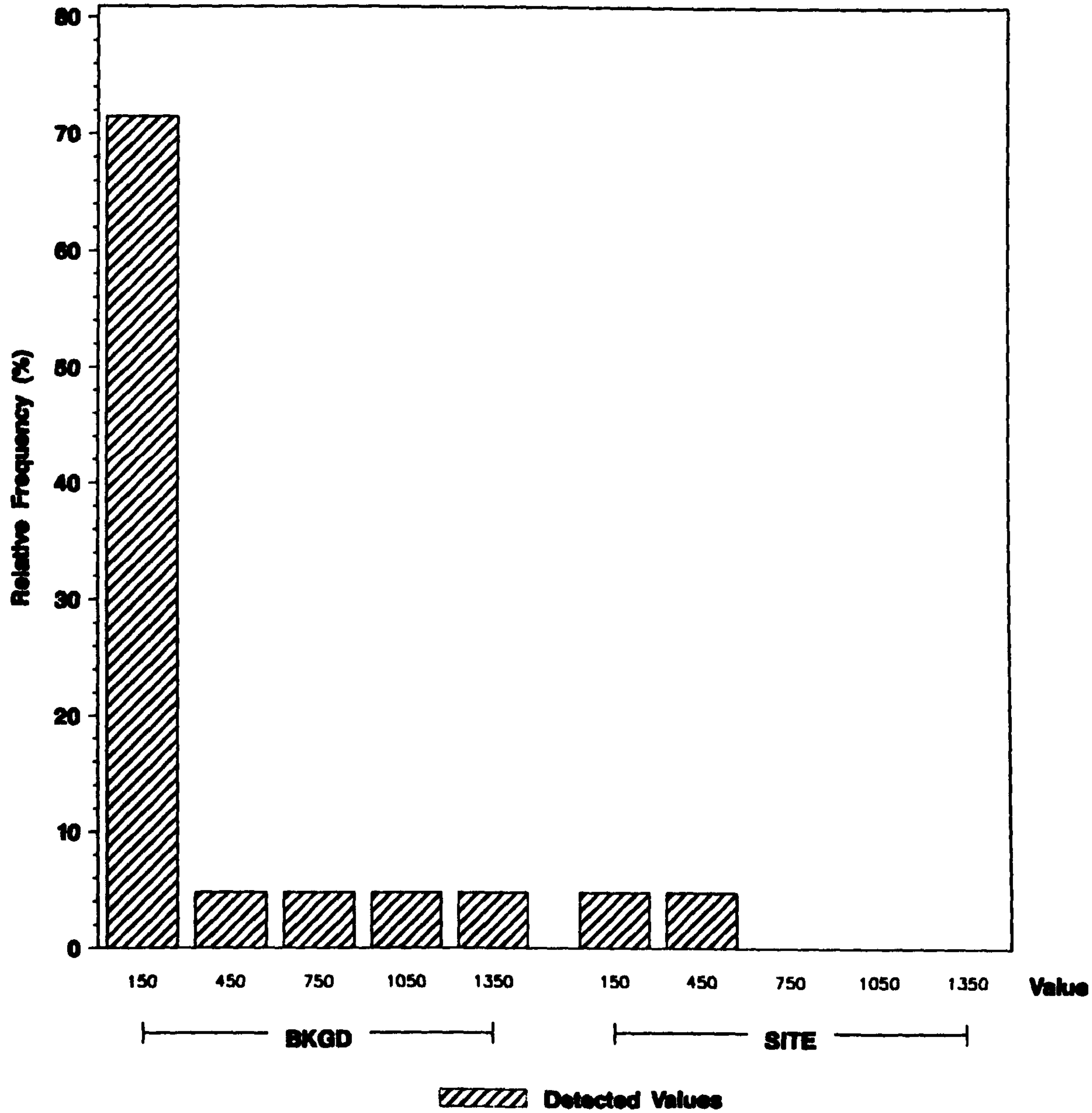
ANALYTE = SELENIUM



Background vs East Landfill Pond Sediments Frequency Histogram

SILICON (mg/Kg) In Sediments

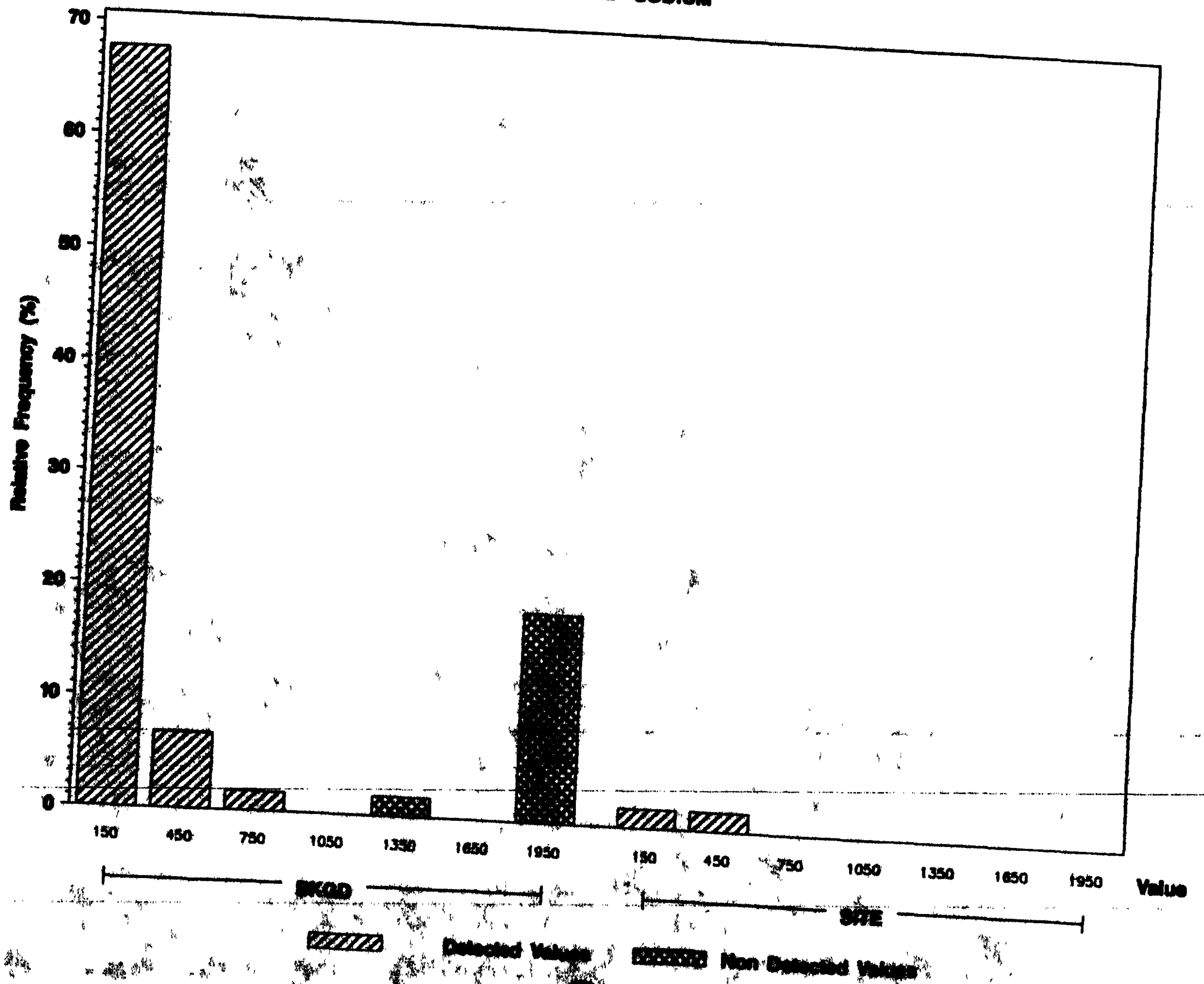
ANALYTE=SILICON



Background vs East Landfill Pond Sediments Frequency Histogram

SODIUM (mg/Kg) in Sediments

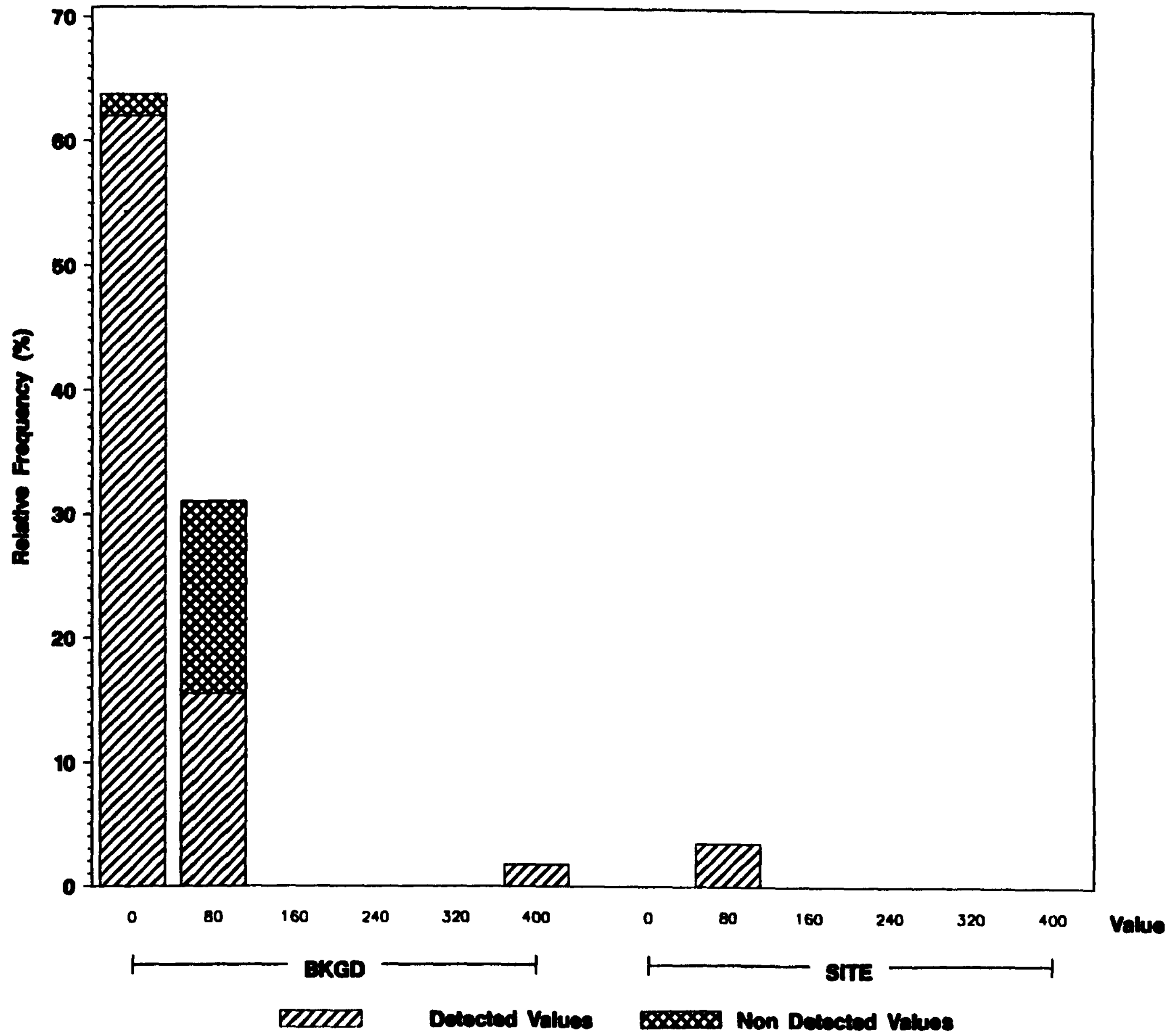
ANALYTE=SODIUM



Background vs East Landfill Pond Sediments Frequency Histogram

STRONTIUM (mg/Kg) in Sediments

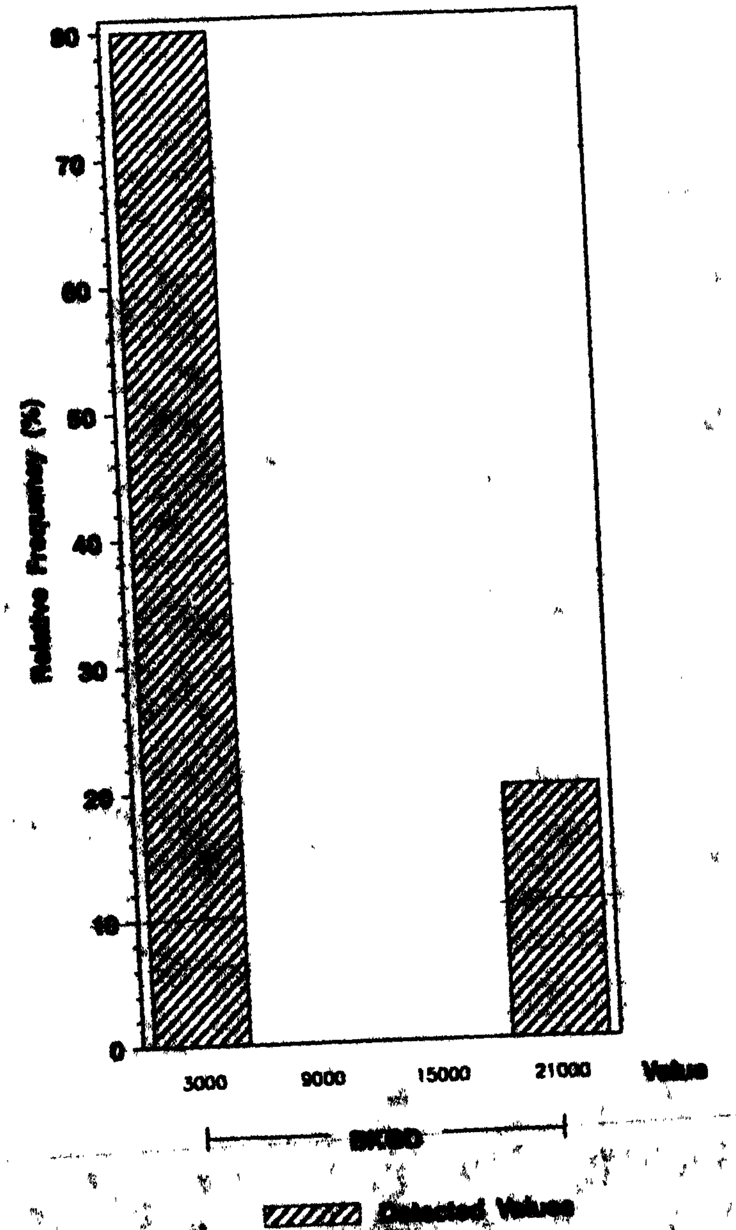
ANALYTE=STRONTIUM



Background vs East Landfill Pond Sediments Frequency Histogram

TOTAL ALKALINITY (mg/Kg) in Sediments

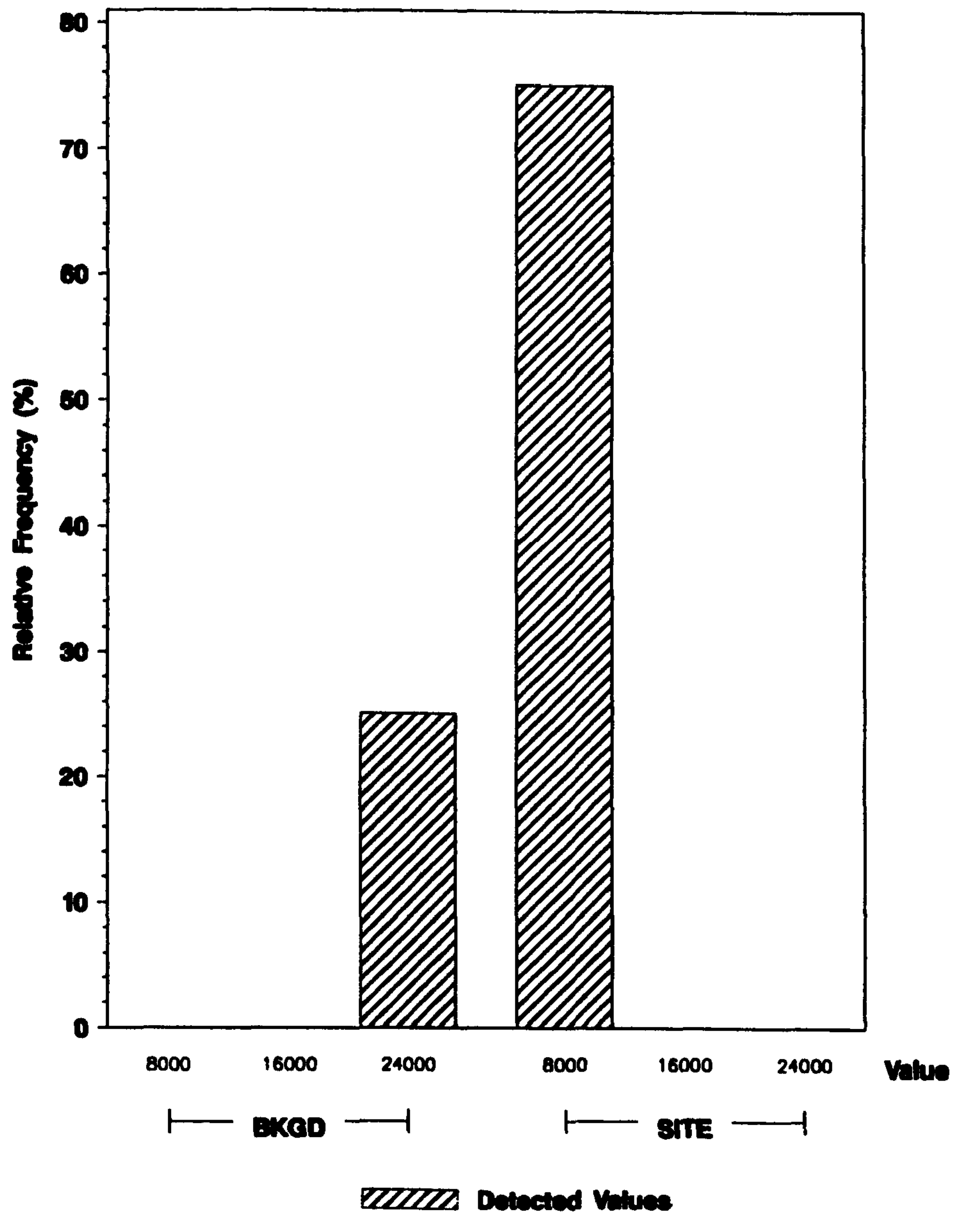
ANALYTE=TOTAL ALKALINITY



Background vs East Landfill Pond Sediments Frequency Histogram

TOTAL ORGANIC CARBON (mg/Kg) in Sediments

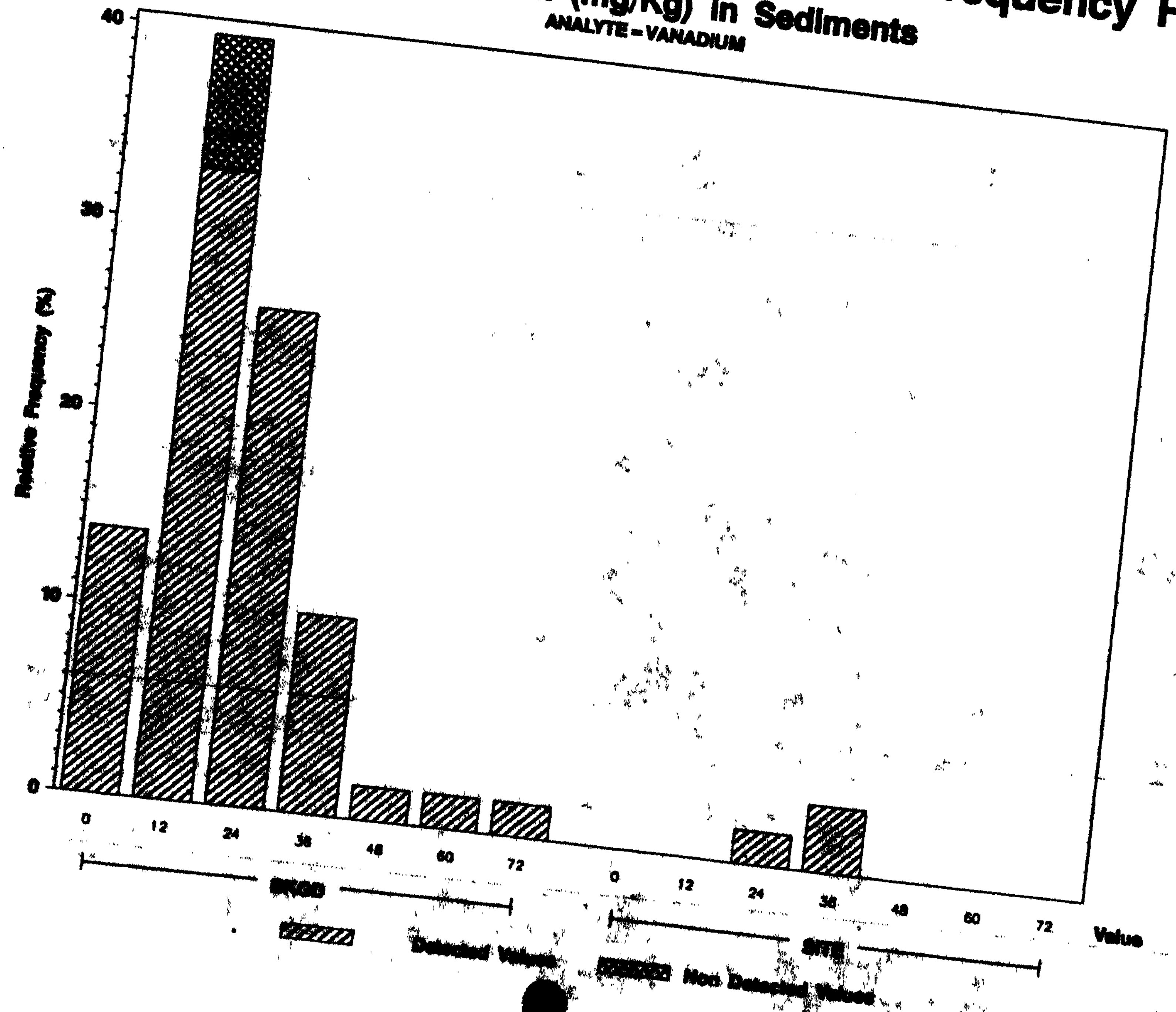
ANALYTE=TOTAL ORGANIC CARBON



Background vs East Landfill Pond Sediments Frequency Histogram

VANADIUM (mg/Kg) in Sediments

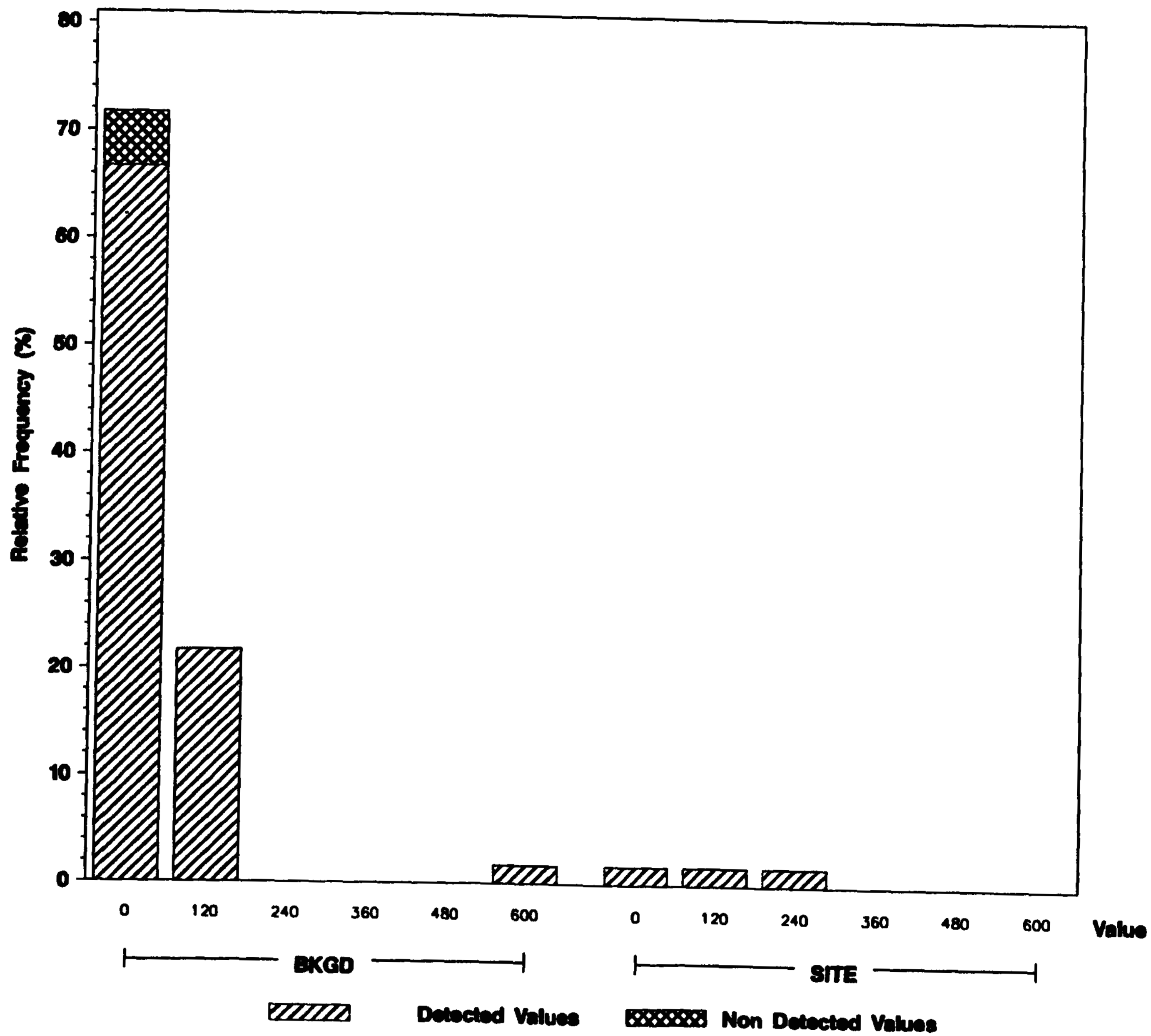
ANALYTE=VANADIUM



Background vs East Landfill Pond Sediments Frequency Histogram

ZINC (mg/Kg) in Sediments

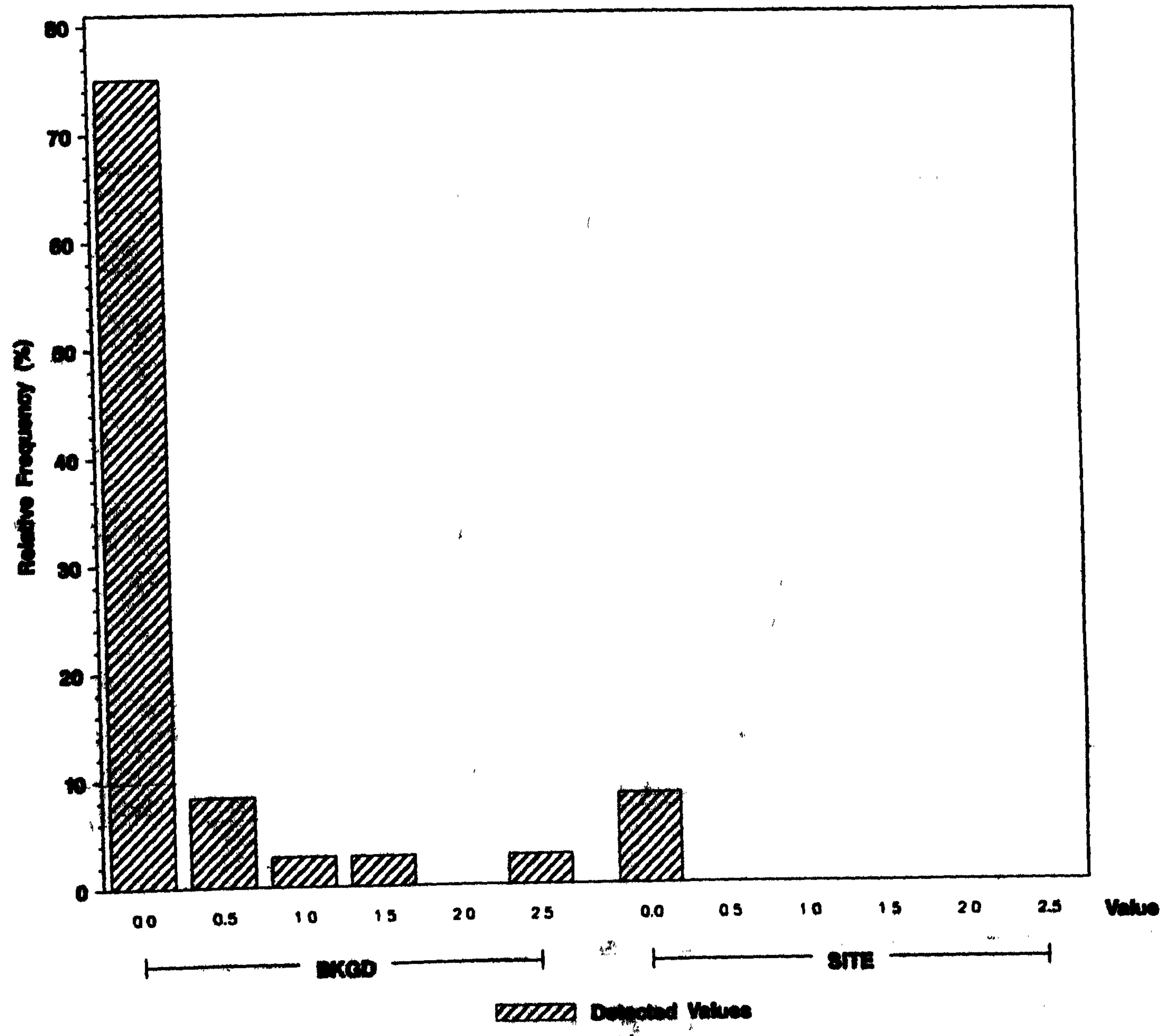
ANALYTE=ZINC



Background vs East Landfill Pond Sediments Frequency Histogram

AMERICIUM-241 (pCi/g) In Sediments

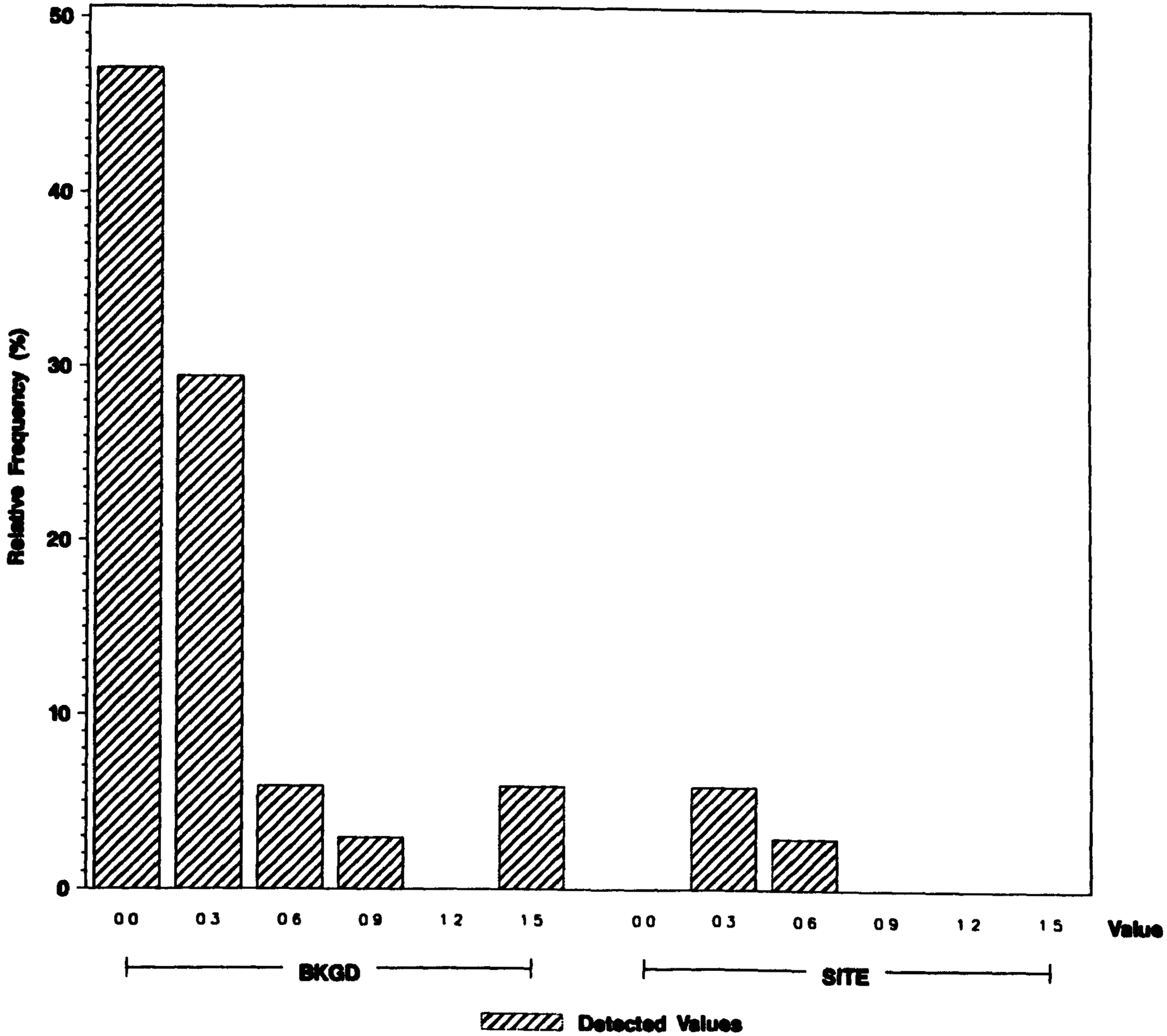
ANALYTE=AMERICIUM-241



Background vs East Landfill Pond Sediments Frequency Histogram

CESIUM-137 (pCi/g) In Sediments

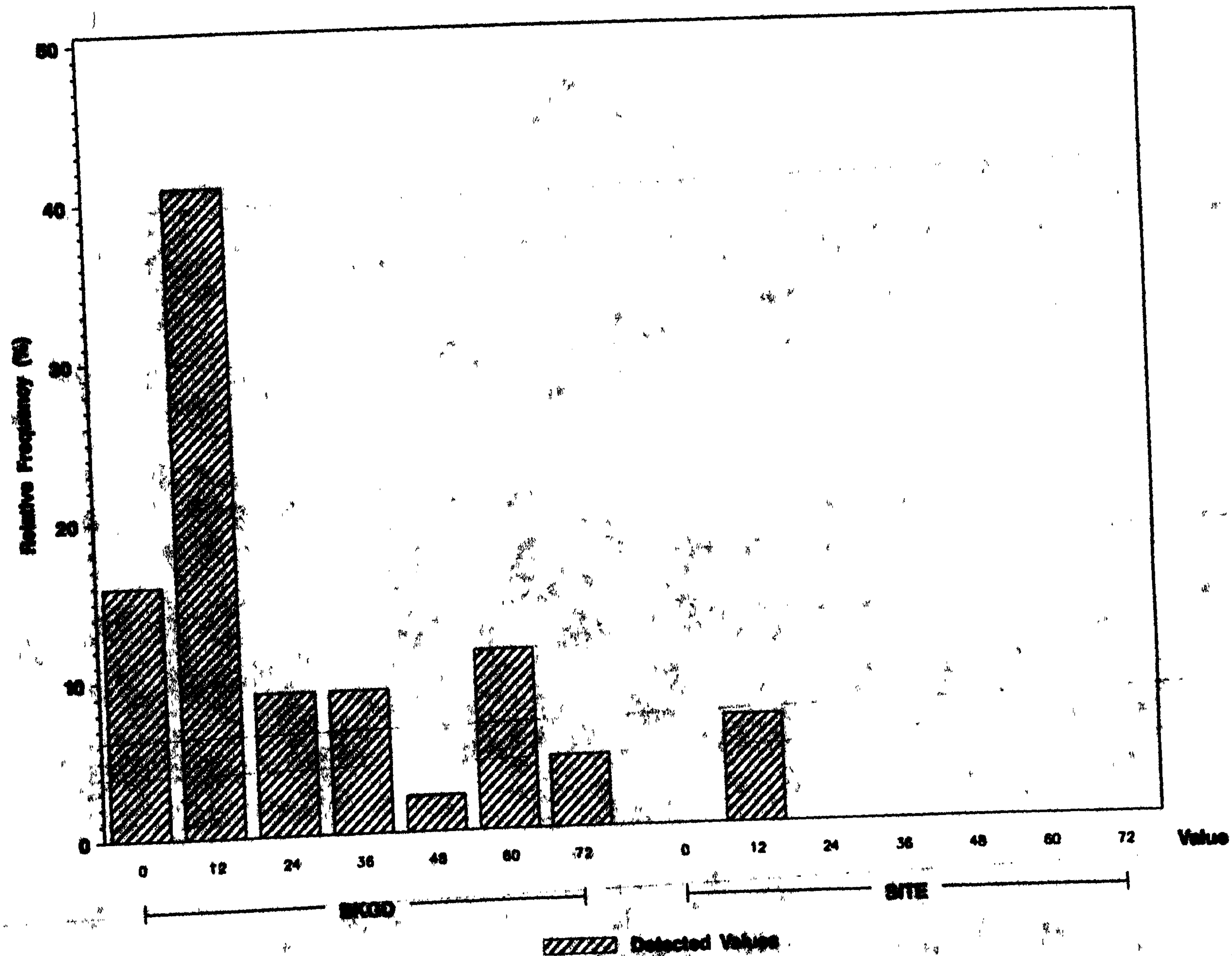
ANALYTE=CESIUM-137



Background vs East Landfill Pond Sediments Frequency Histogram

GROSS ALPHA (pCi/g) in Sediments

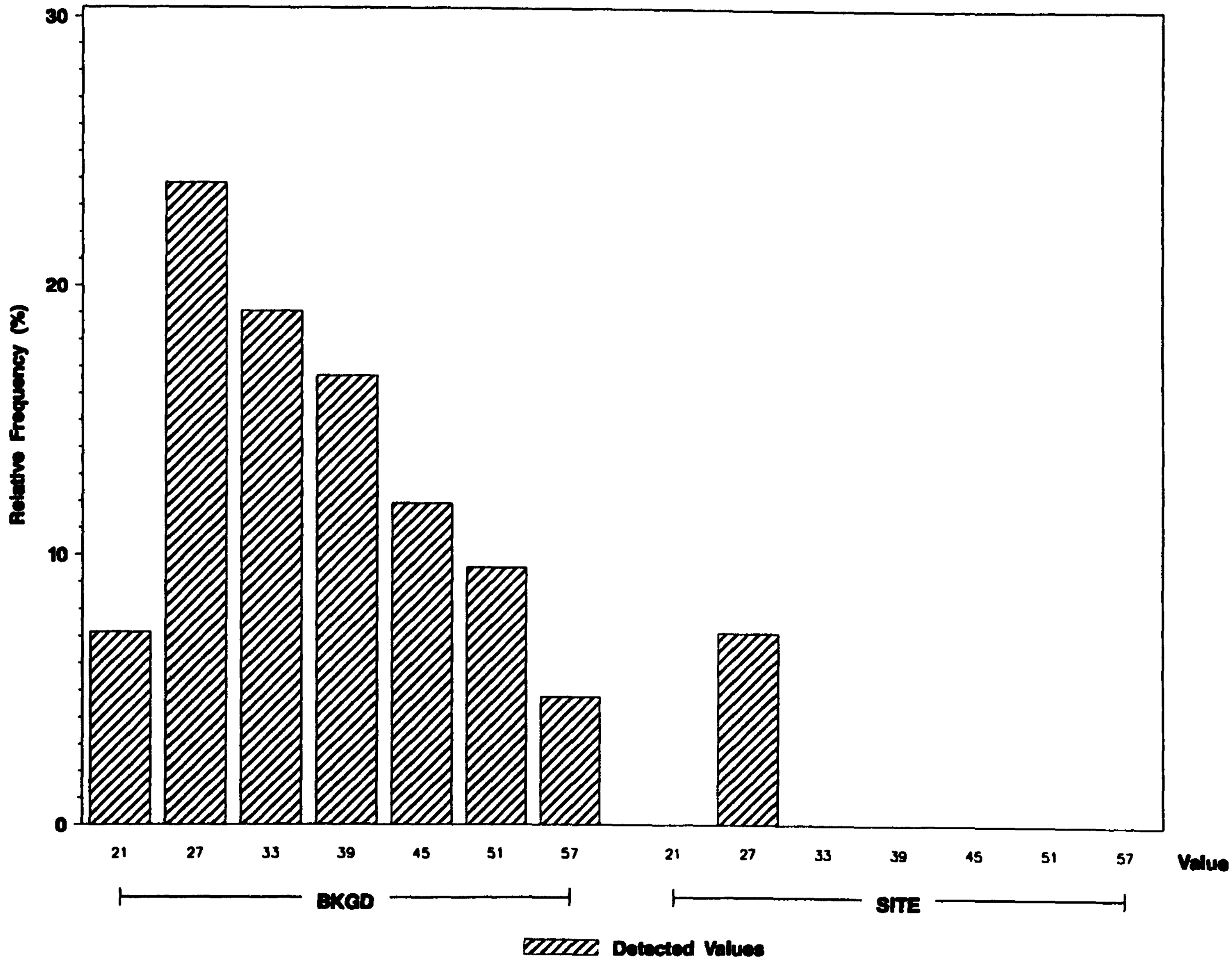
ANALYTE=GROSS ALPHA



Background vs East Landfill Pond Sediments Frequency Histogram

GROSS BETA (pCi/g) in Sediments

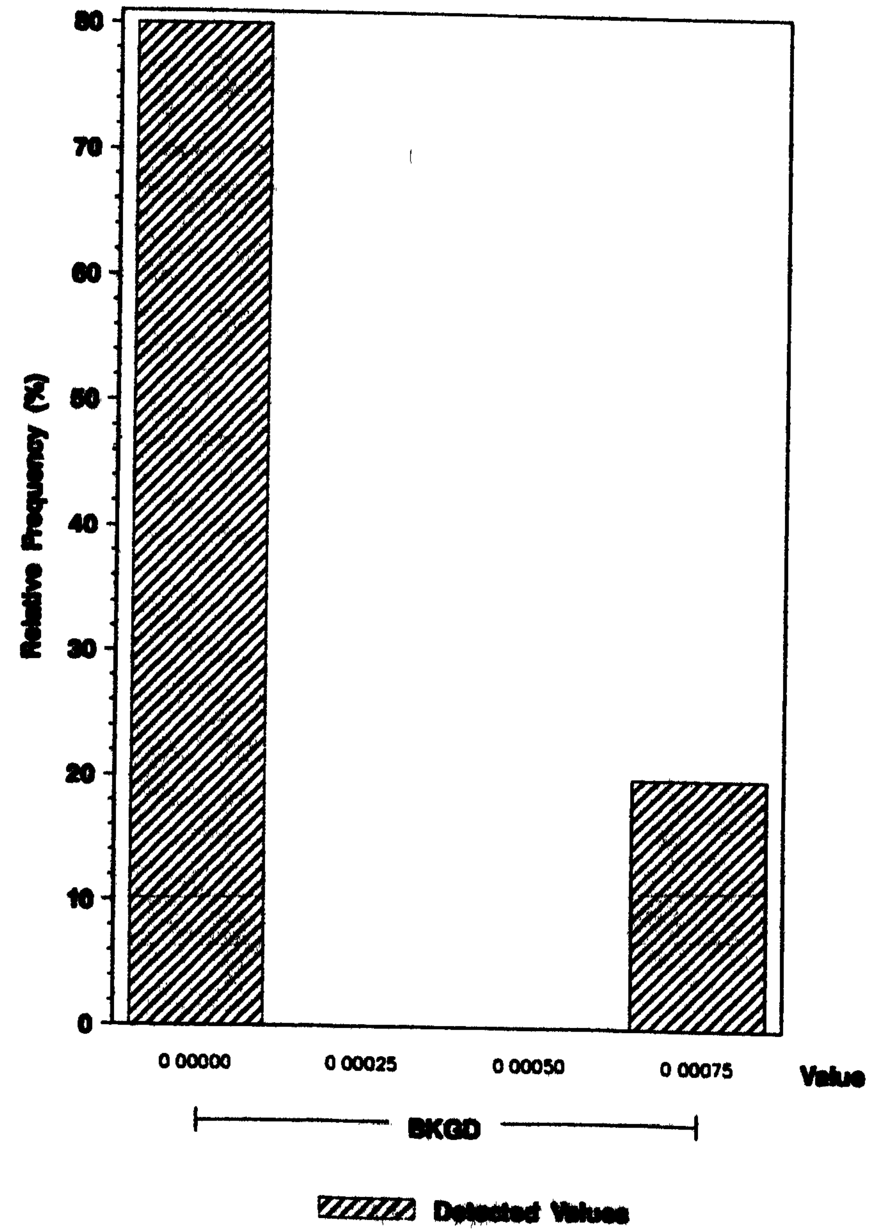
ANALYTE=GROSS BETA



Background vs East Landfill Pond Sediments Frequency Histogram

PLUTONIUM – 238 (pCi/g) in Sediments

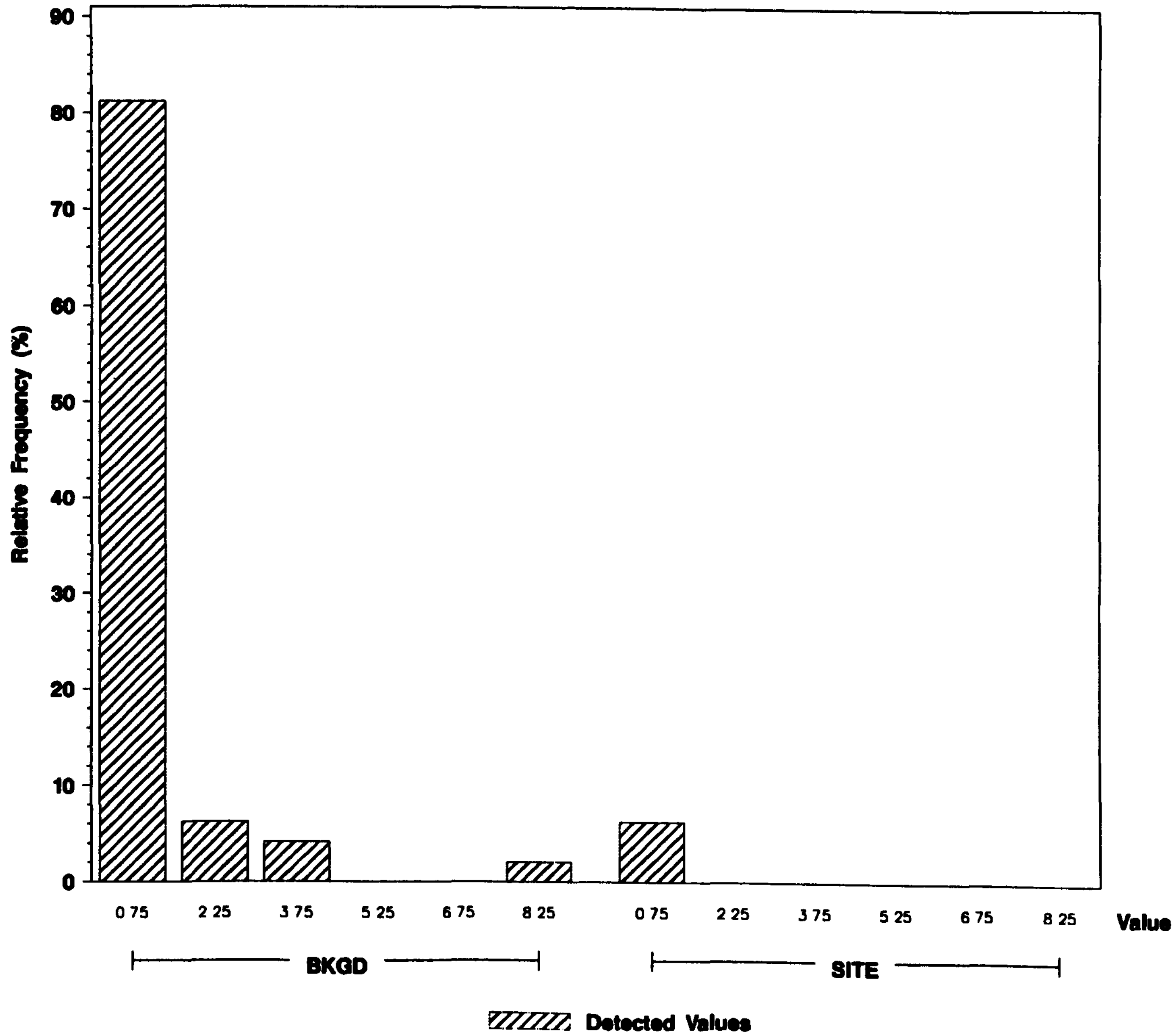
ANALYTE = PLUTONIUM – 238



Background vs East Landfill Pond Sediments Frequency Histogram

PLUTONIUM – 239/240 (pCi/g) in Sediments

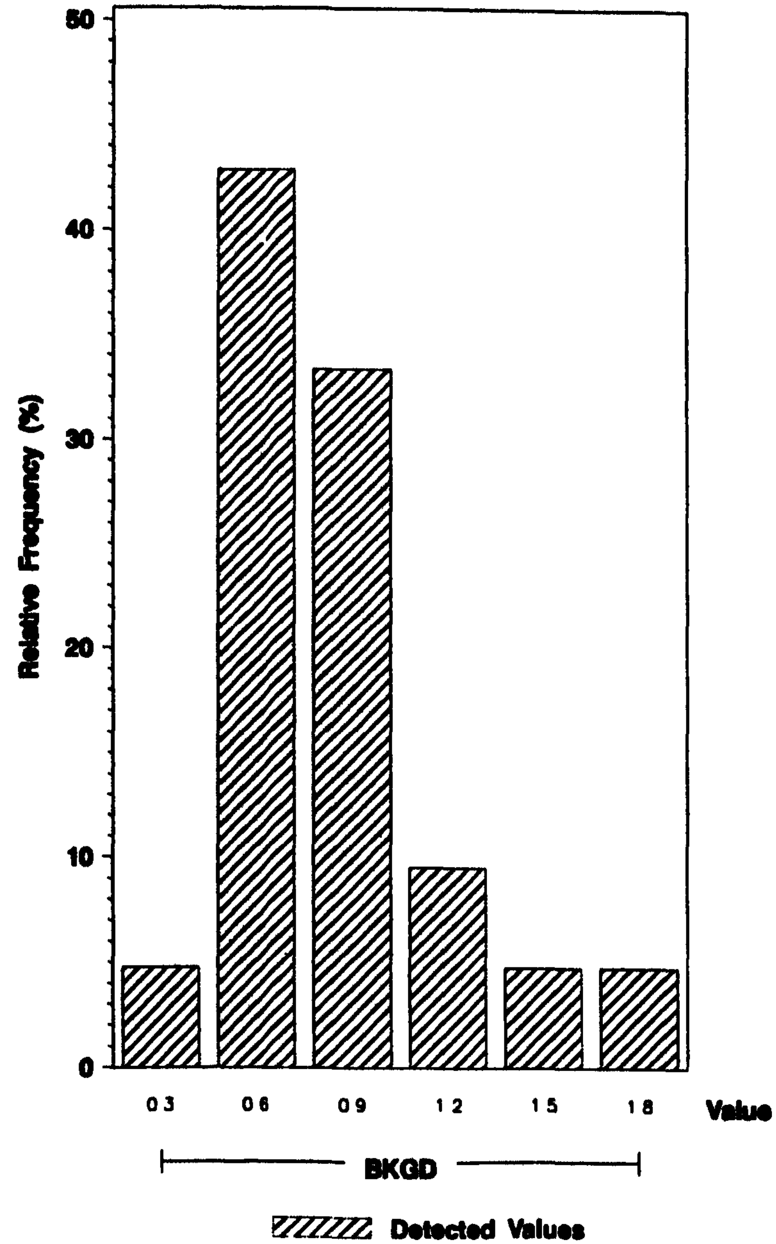
ANALYTE = PLUTONIUM – 239/240



Background vs East Landfill Pond Sediments Frequency Histogram

RADIUM-226 (pCi/g) in Sediments

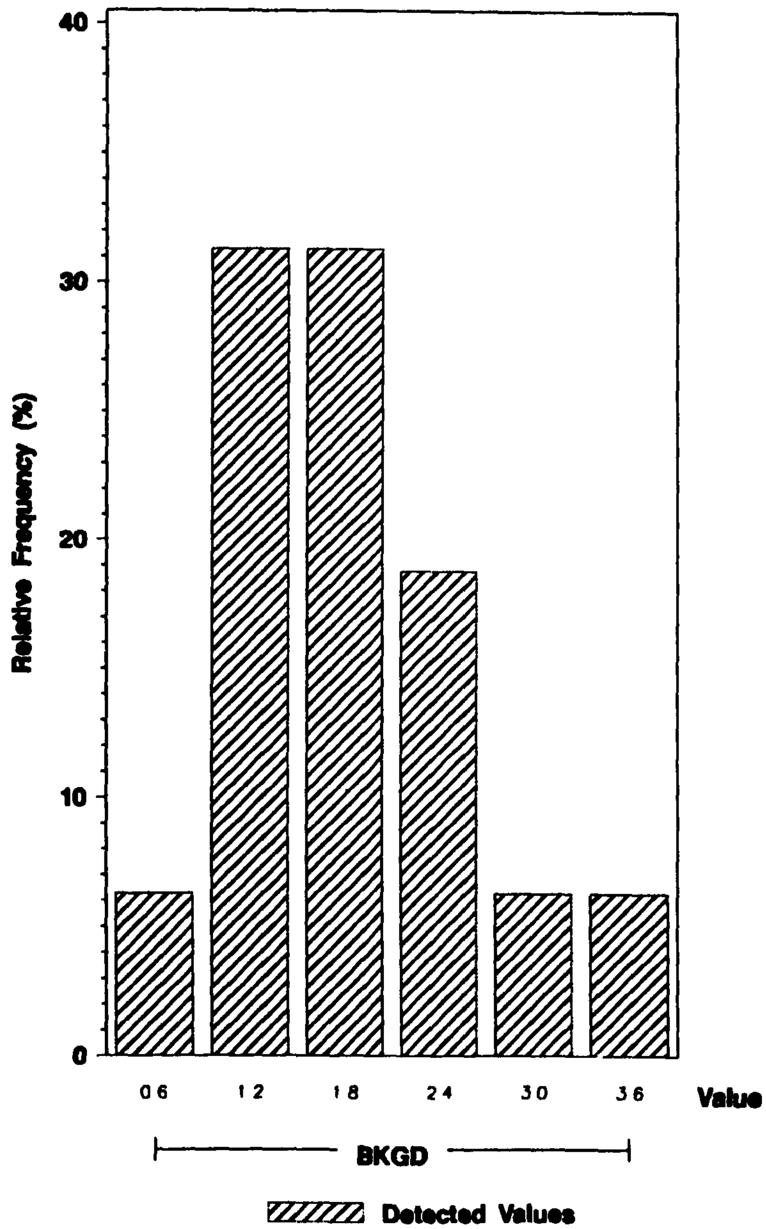
ANALYTE=RADIUM-226



Background vs East Landfill Pond Sediments Frequency Histogram

RADIUM – 228 (pCi/g) in Sediments

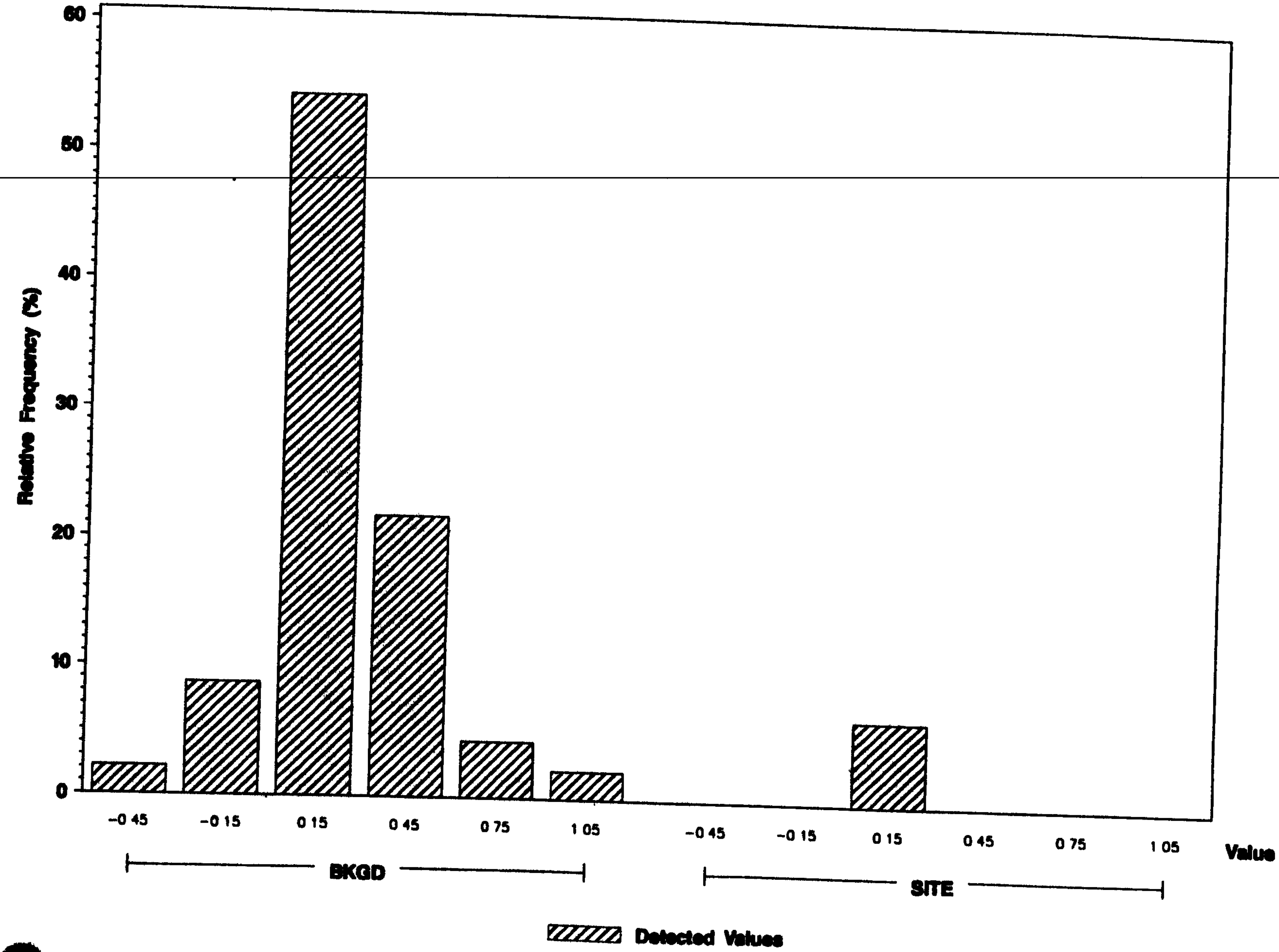
ANALYTE = RADIUM – 228



Background vs East Landfill Pond Sediments Frequency Histogram

STRONTIUM – 89,90 (pCi/g) In Sediments

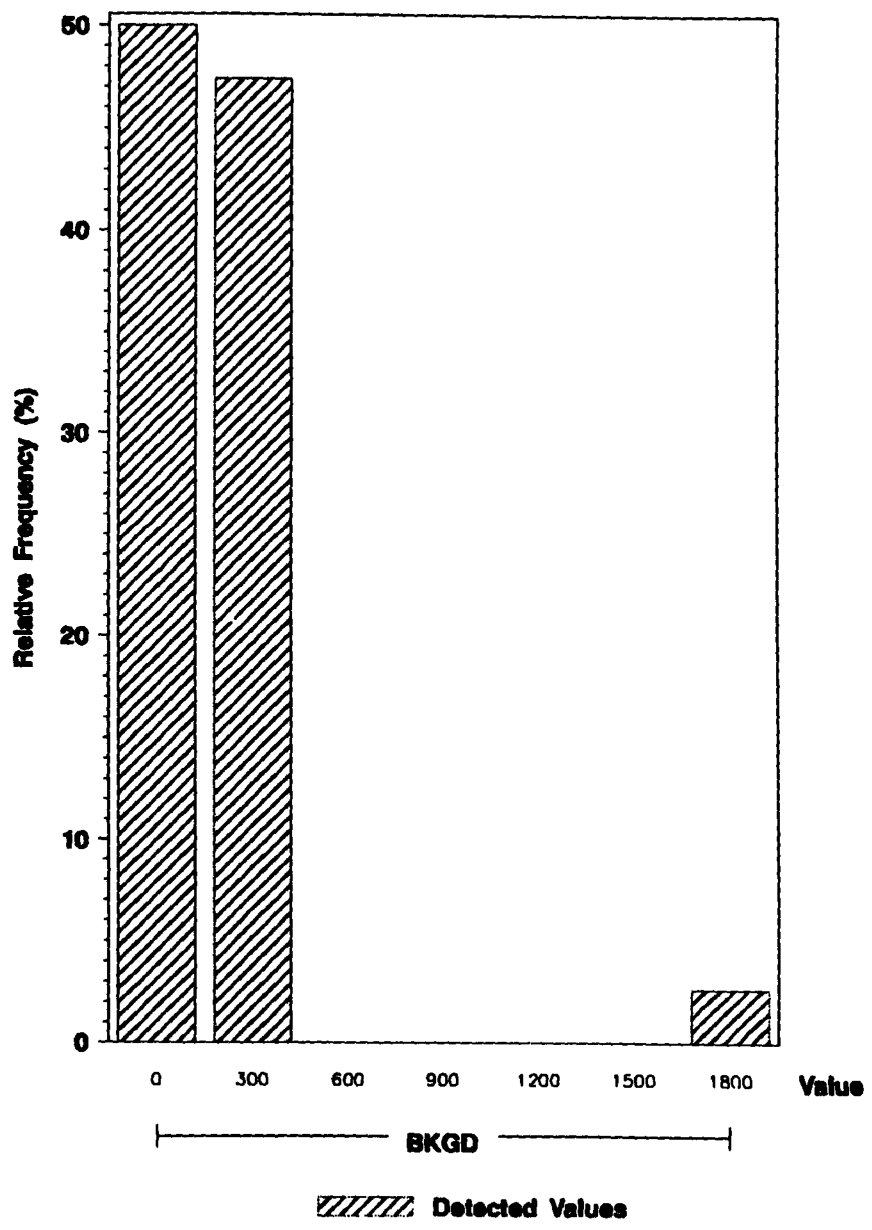
ANALYTE = STRONTIUM – 89,90



Background vs East Landfill Pond Sediments Frequency Histogram

TRITIUM (pCi/L) in Sediments

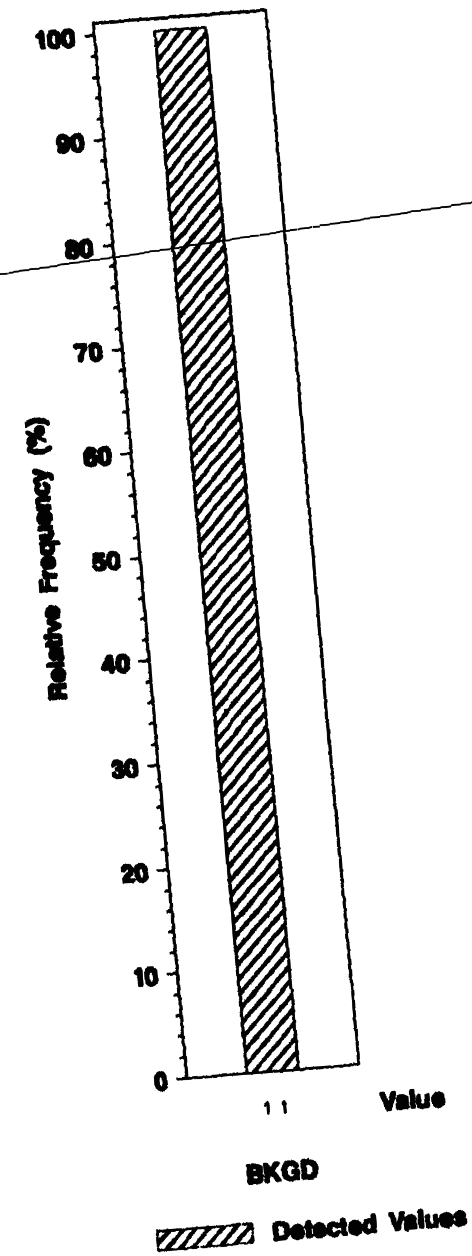
ANALYTE=TRITIUM



Background vs East Landfill Pond Sediments Frequency Histogram

URANIUM, TOTAL (pCi/g) in Sediments

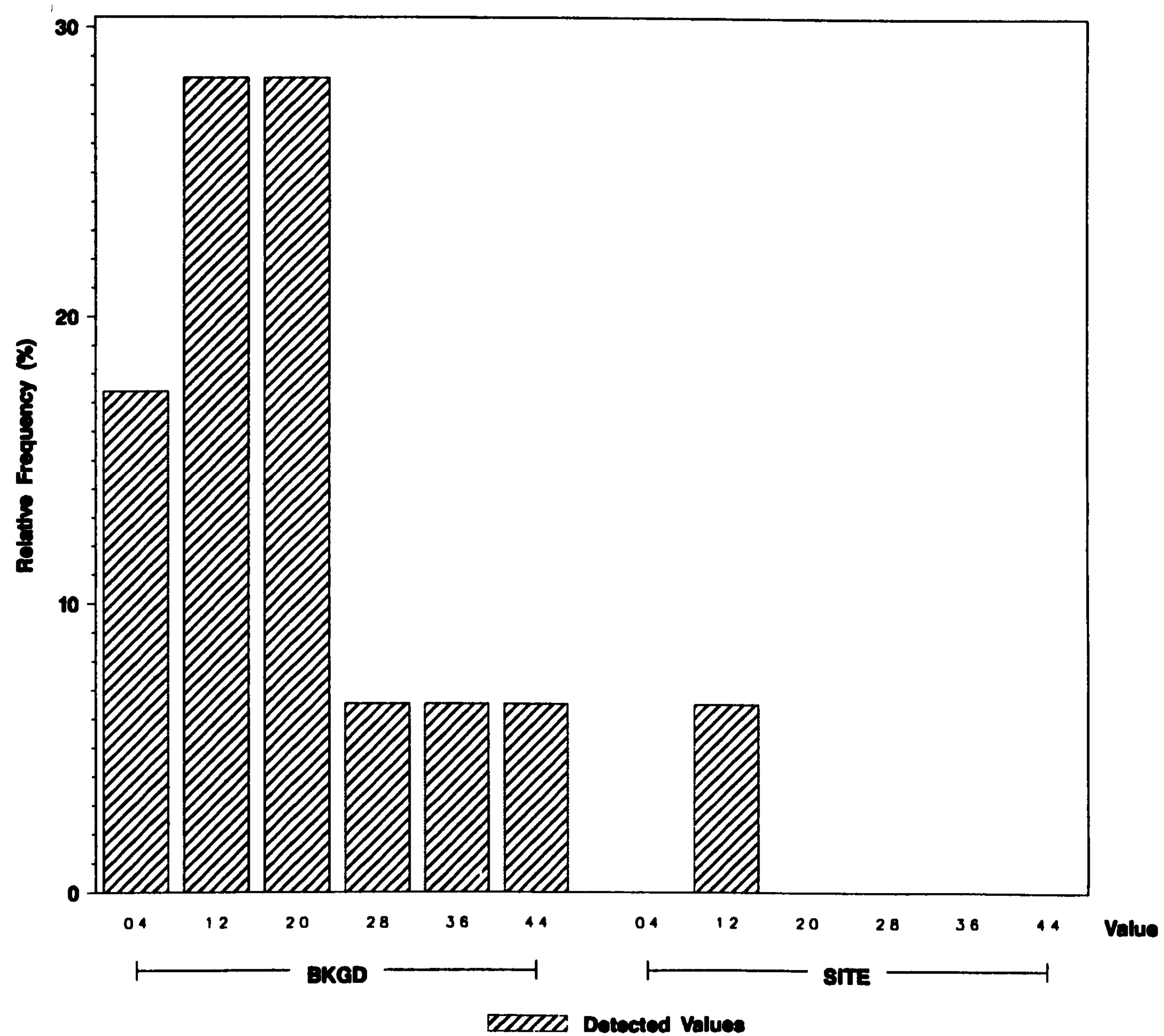
ANALYTE=URANIUM, TOTAL



Background vs East Landfill Pond Sediments Frequency Histogram

URANIUM-233,-234 (pCi/g) in Sediments

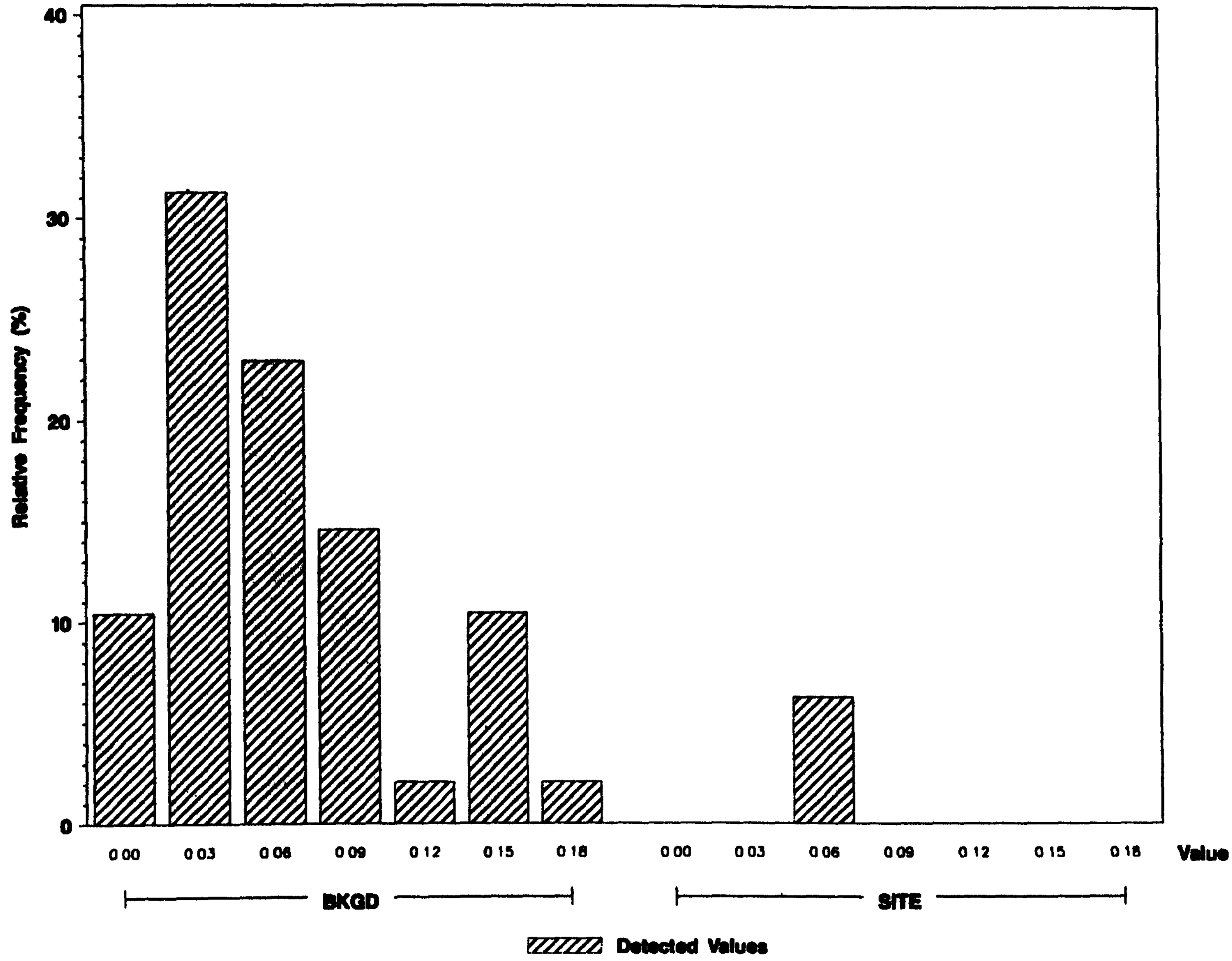
ANALYTE=URANIUM-233,-234



Background vs East Landfill Pond Sediments Frequency Histogram

URANIUM – 235 (pCi/g) In Sediments

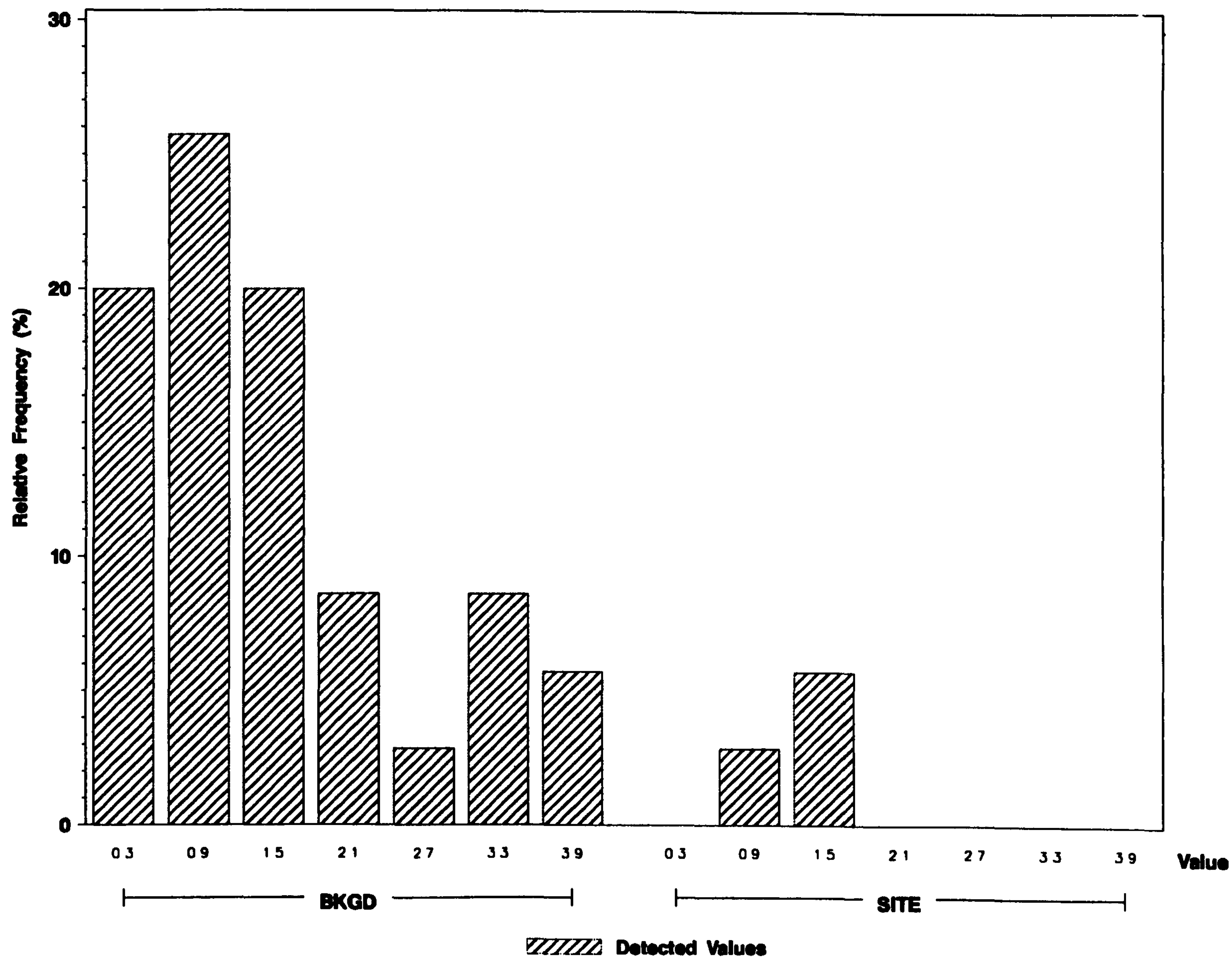
ANALYTE = URANIUM – 235



Background vs East Landfill Pond Sediments Frequency Histogram

URANIUM-238 (pCi/g) In Sediments

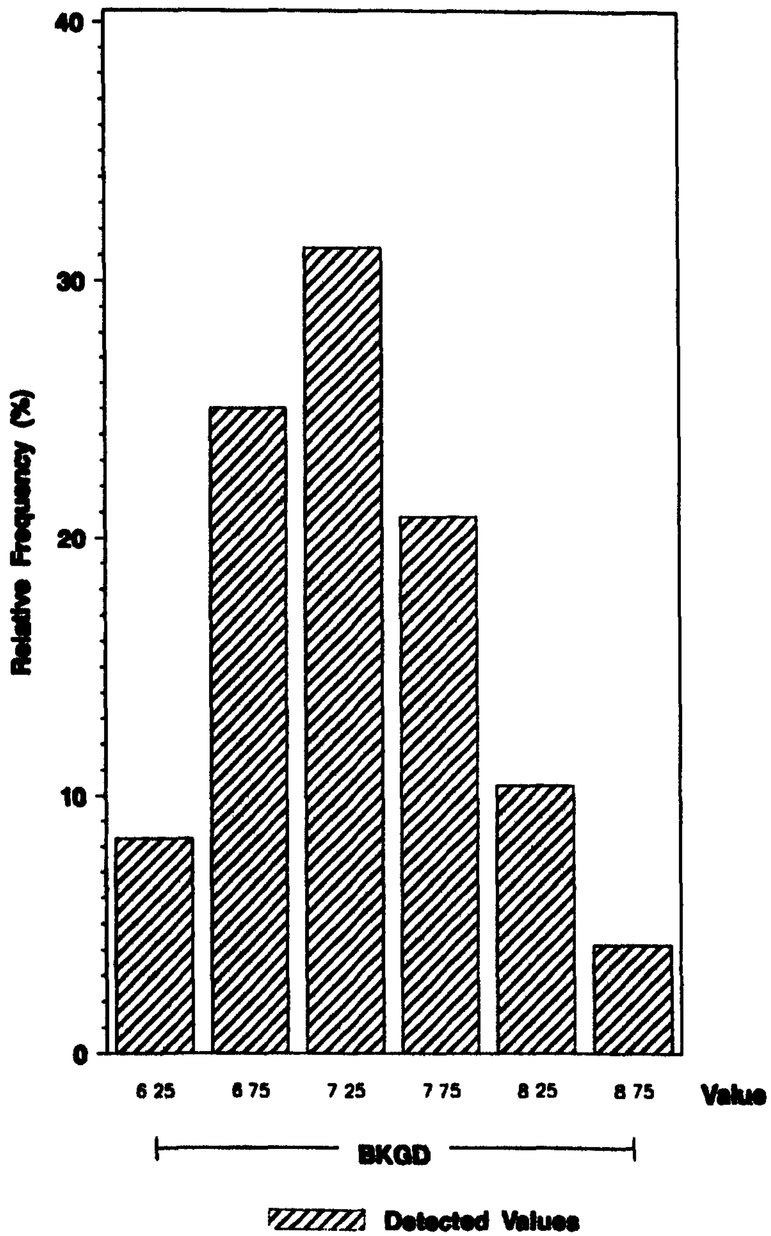
ANALYTE=URANIUM-238



Background vs East Landfill Pond Sediments Frequency Histogram

pH In Sediments

ANALYTE=pH



Surface Water

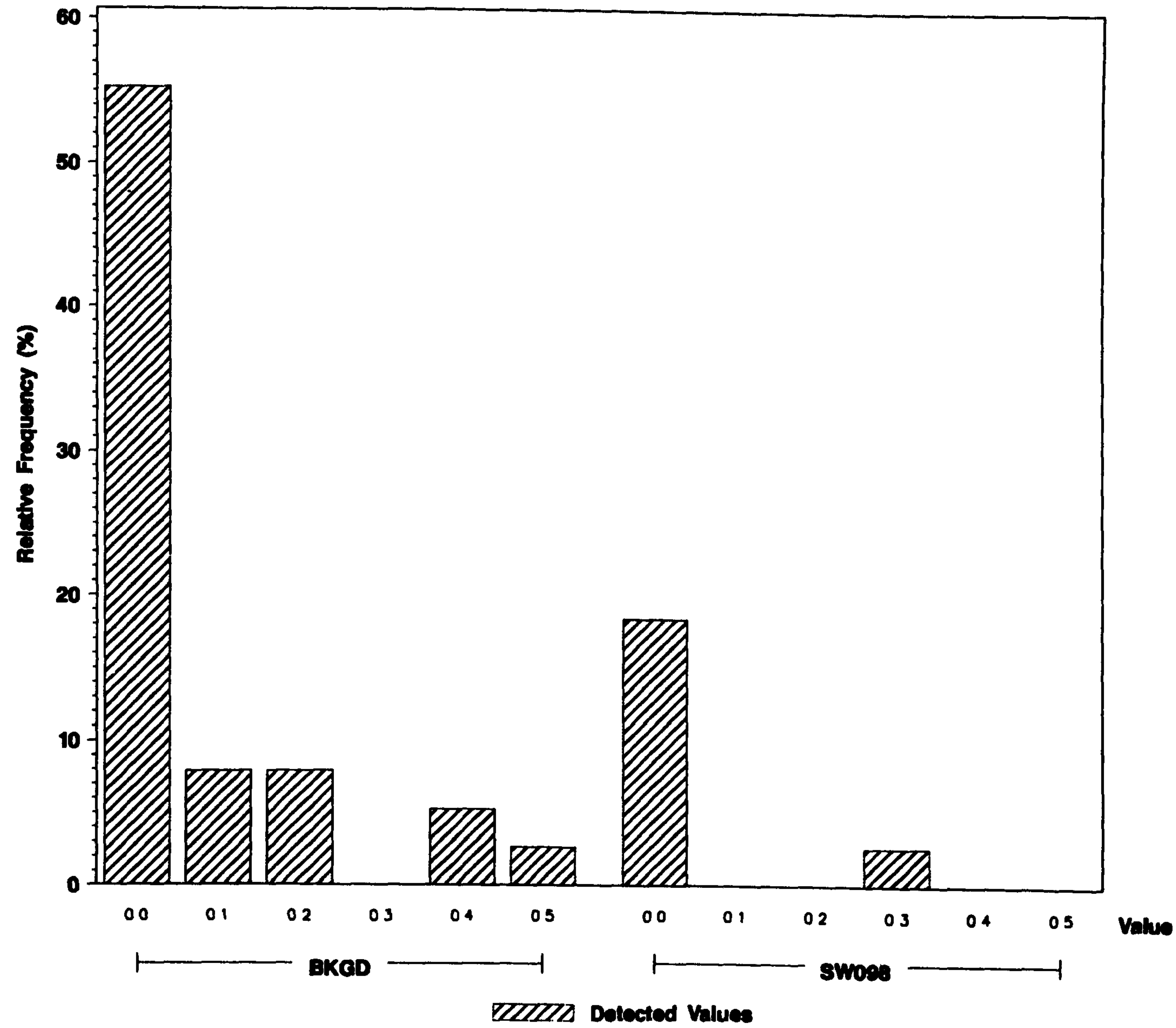
(Dissolved)

Background vs OU 7 (SW098)

Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved AMERICIUM−241 (pCI/L) in Surface Water

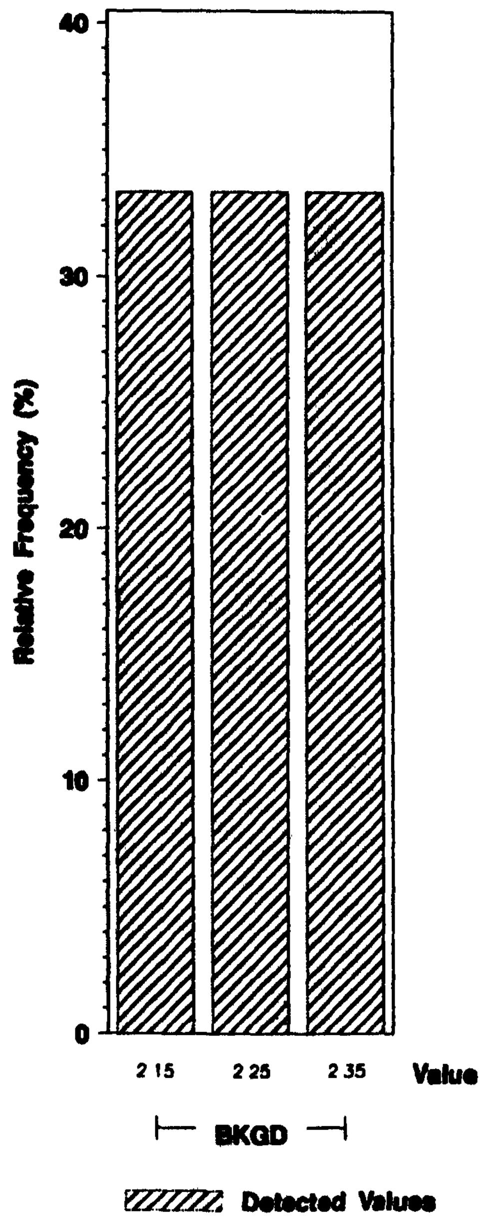
ANALYTE = AMERICIUM − 241



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved CESIUM-134 (pCi/L) in Surface Water

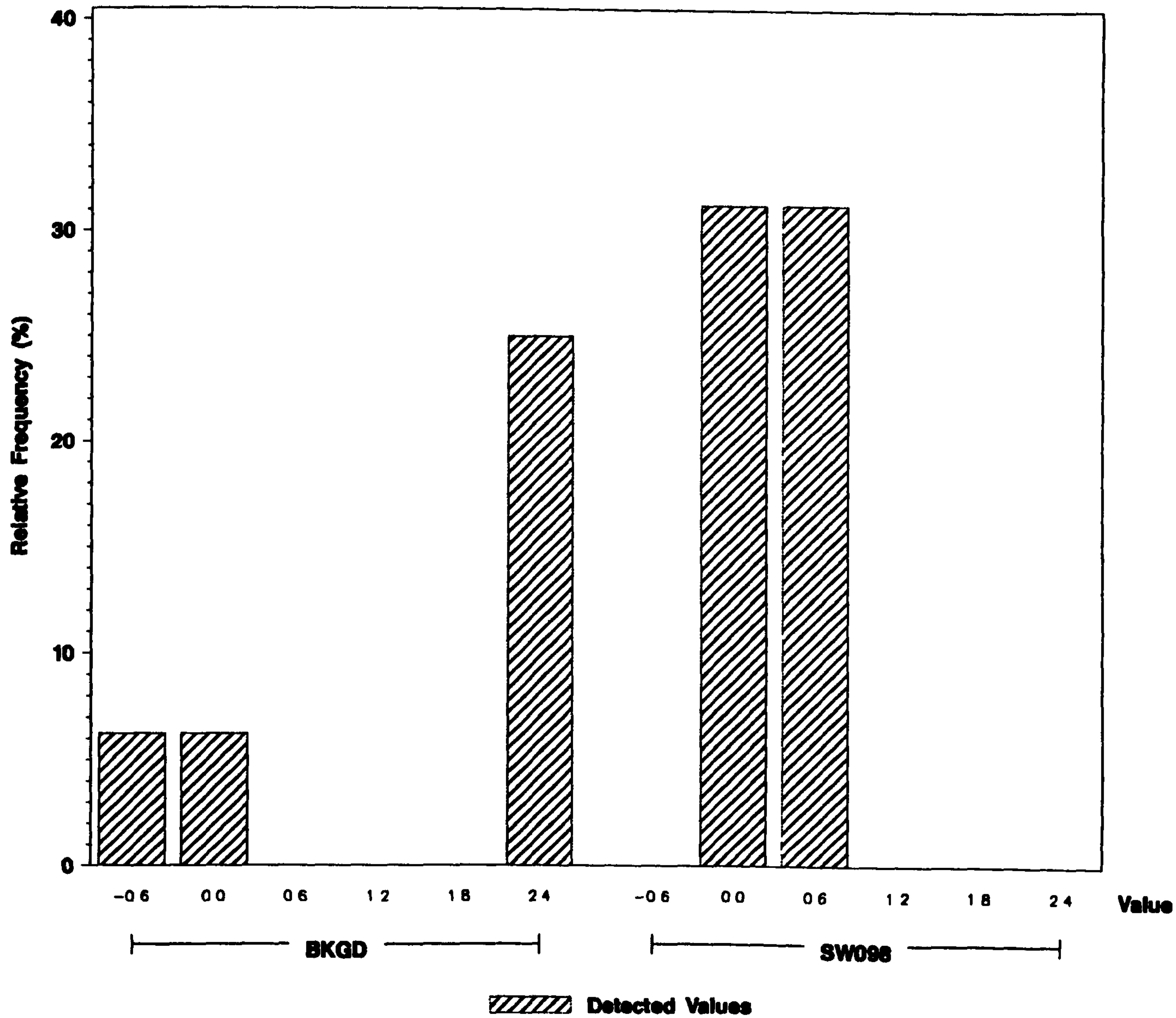
ANALYTE=CESIUM-134



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved CESIUM – 137 (pCi/L) in Surface Water

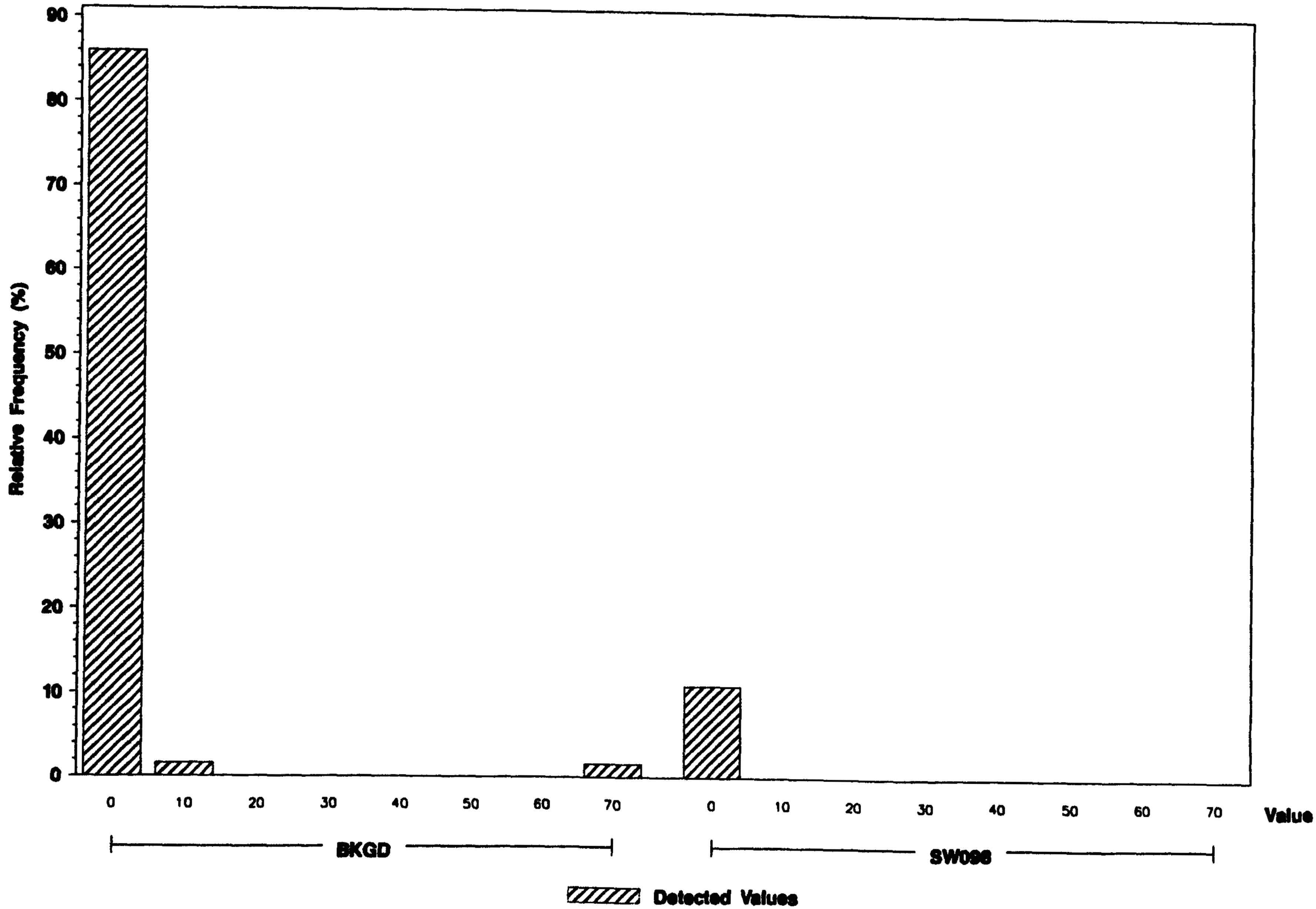
ANALYTE = CESIUM – 137



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved GROSS ALPHA (pCi/L) in Surface Water

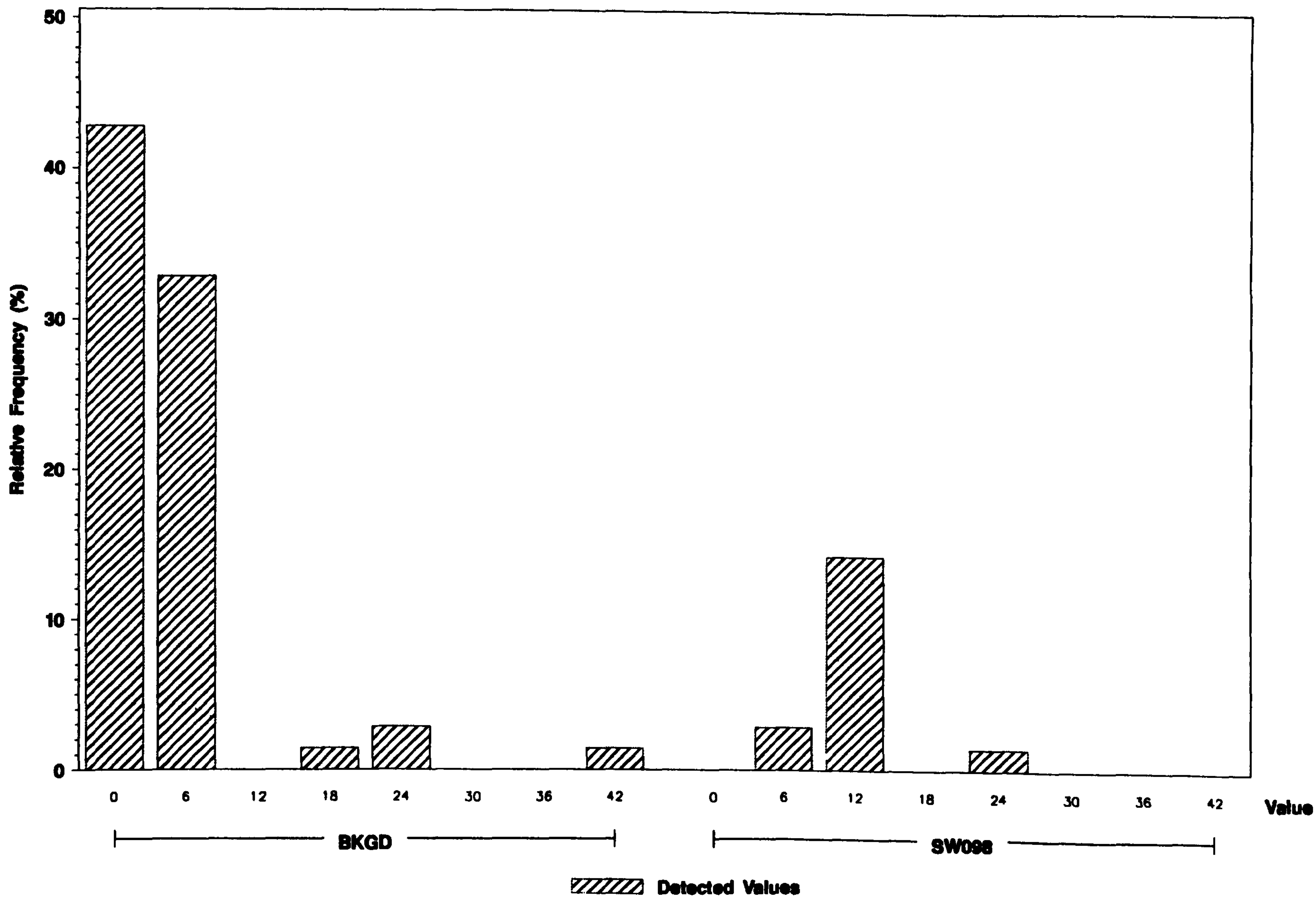
ANALYTE=GROSS ALPHA



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved GROSS BETA (pCi/L) in Surface Water

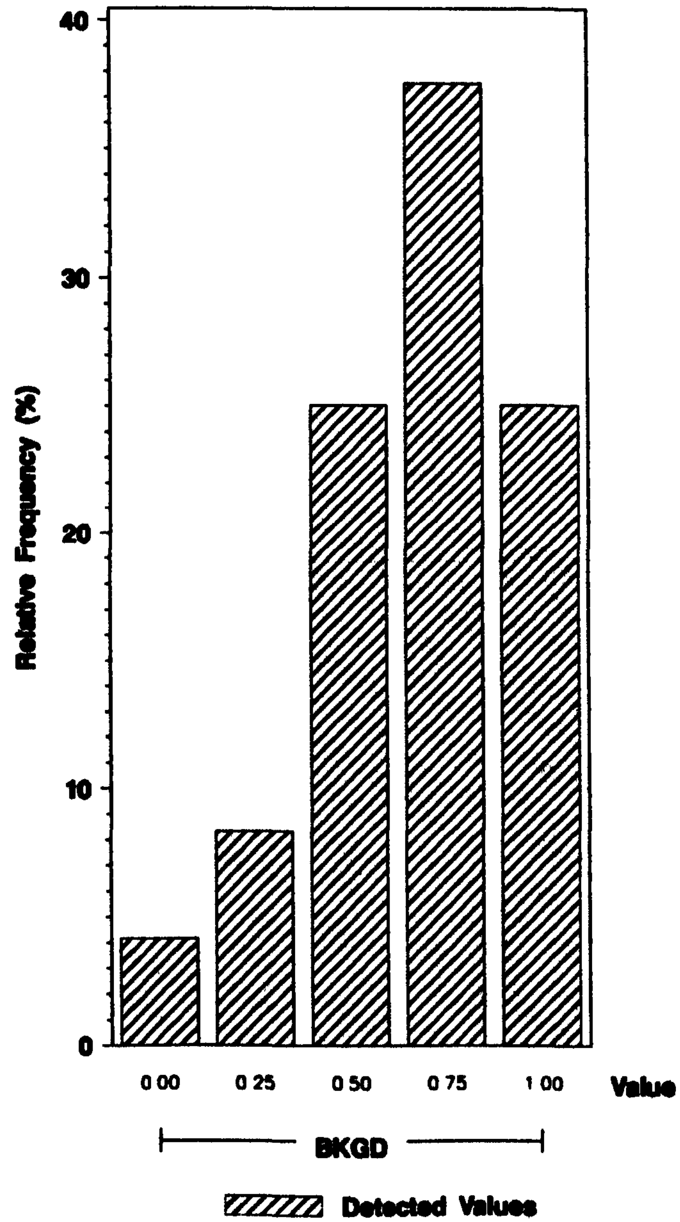
ANALYTE=GROSS BETA



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved GROSS GAMMA (pCi/L) in Surface Water

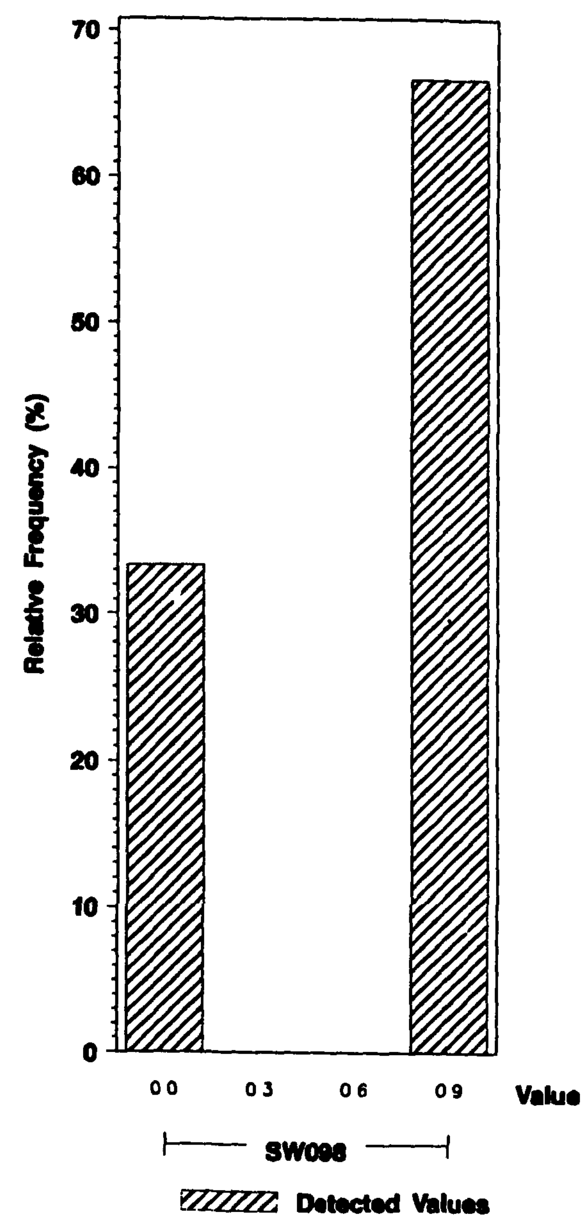
ANALYTE=GROSS GAMMA



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved NEPTUNIUM-237 (pCi/L) In Surface Water

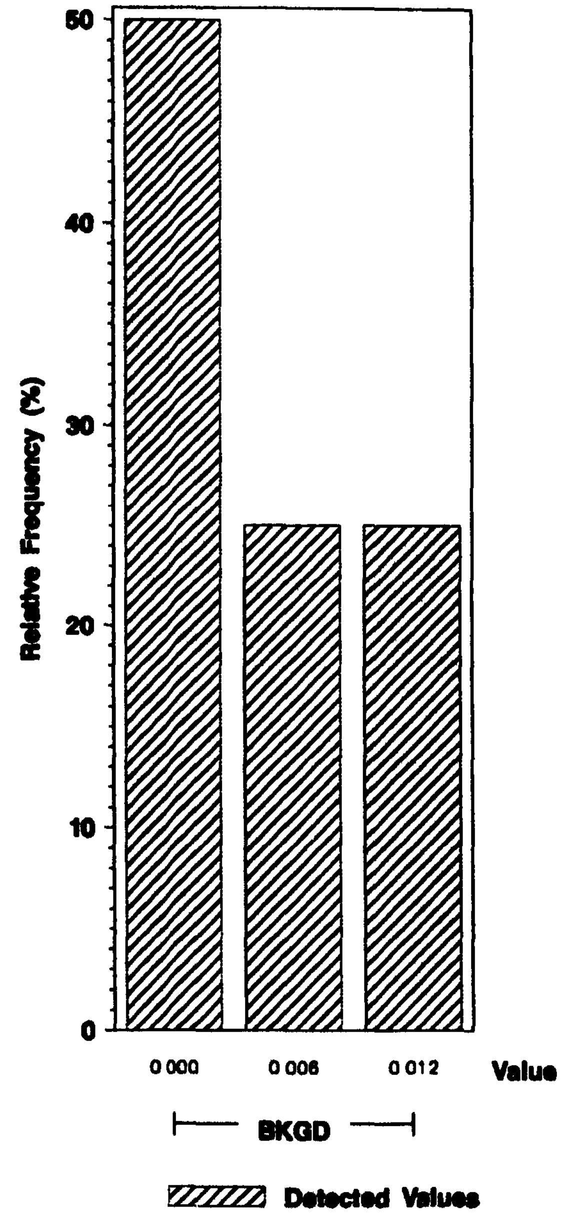
ANALYTE = NEPTUNIUM-237



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved PLUTONIUM-236 (pCI/L) In Surface Water

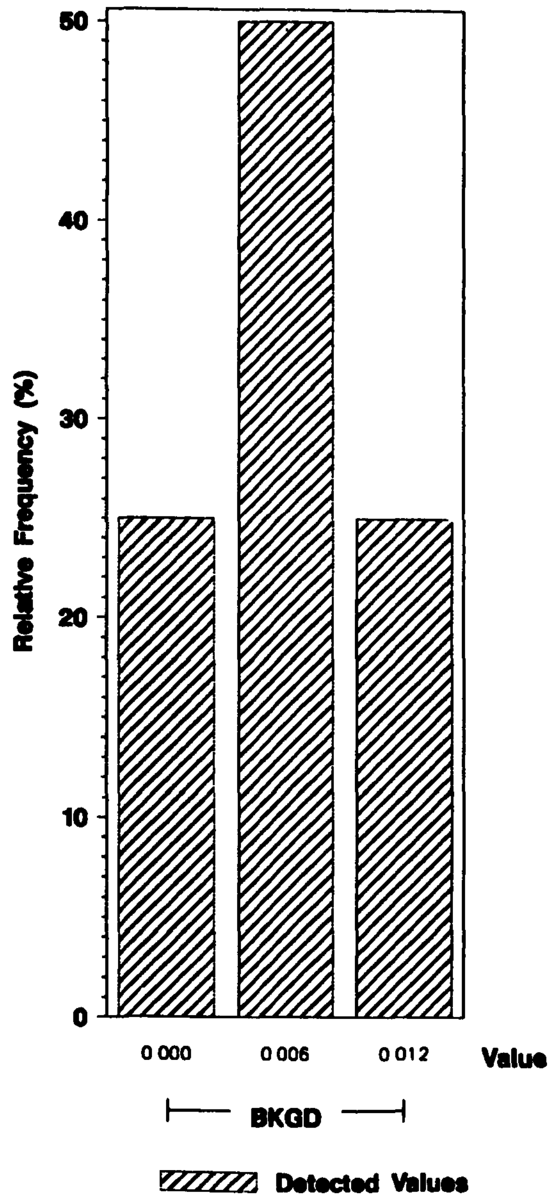
ANALYTE=PLUTONIUM-236



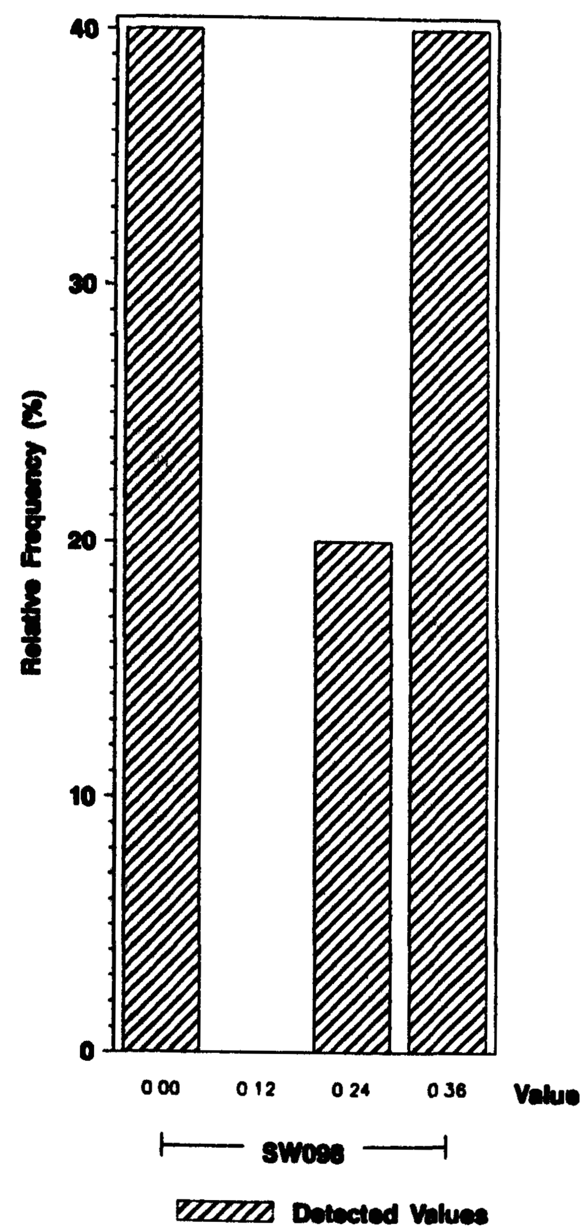
Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved PLUTONIUM-238 (pCi/L) in Surface Water

ANALYTE=PLUTONIUM-238



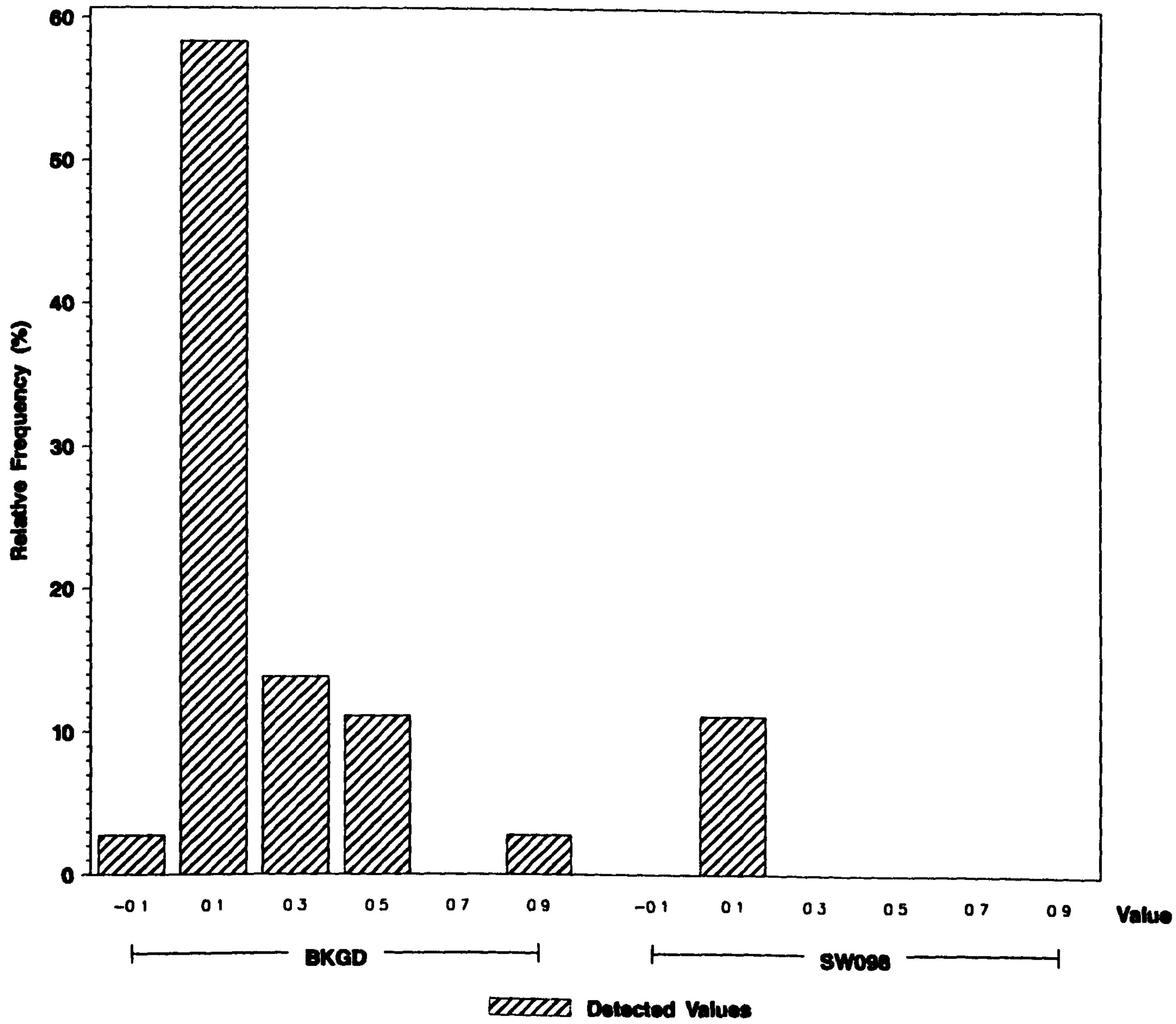
Background vs OU7 Surface Water (SW098) Frequency Histogram
Dissolved PLUTONIUM – 239 (pCi/L) In Surface Water
ANALYTE = PLUTONIUM – 239



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved PLUTONIUM-239/240 (pCi/L) in Surface Water

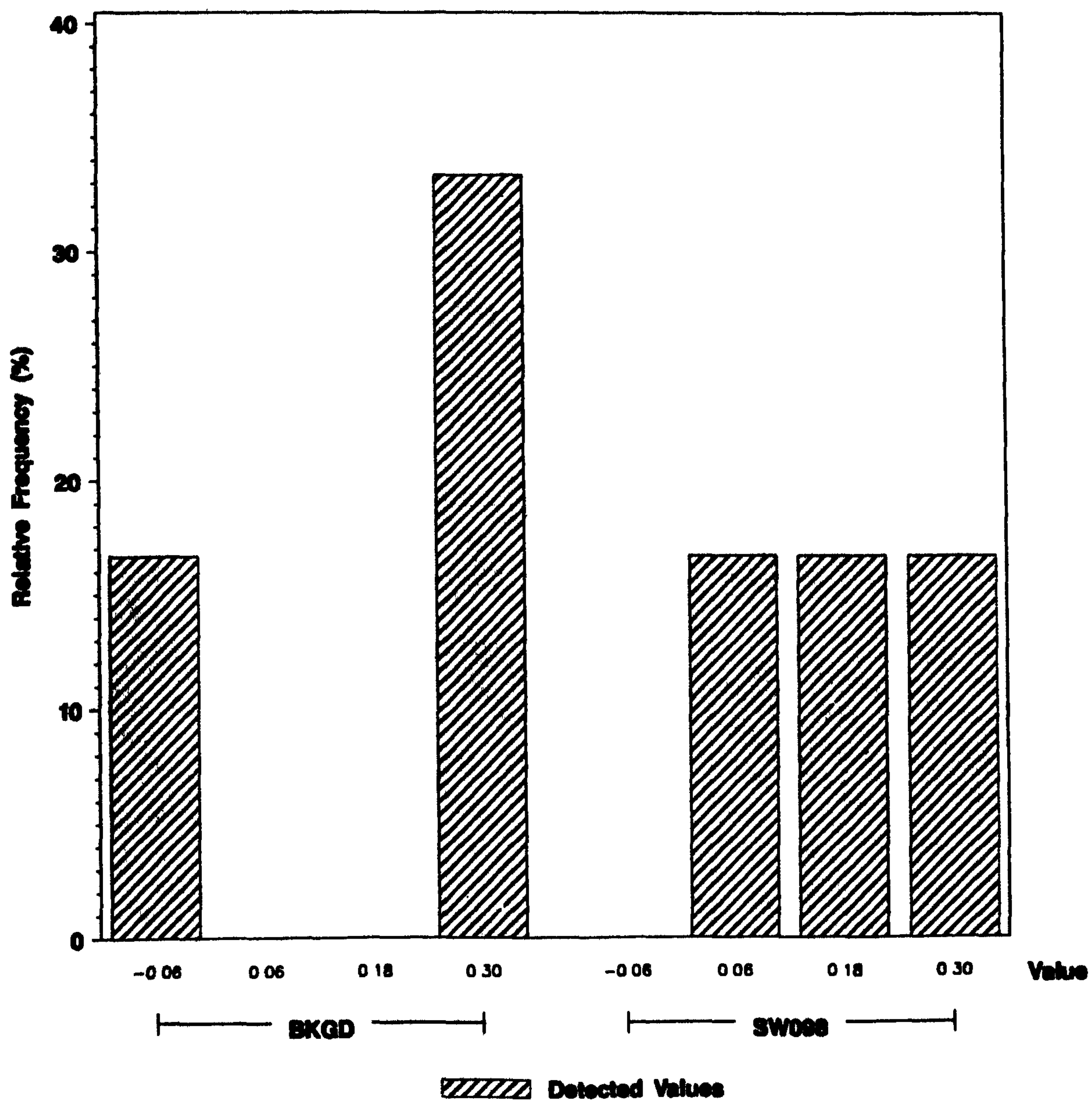
ANALYTE=PLUTONIUM-239/240



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved RADIUM-226 (pCi/L) In Surface Water

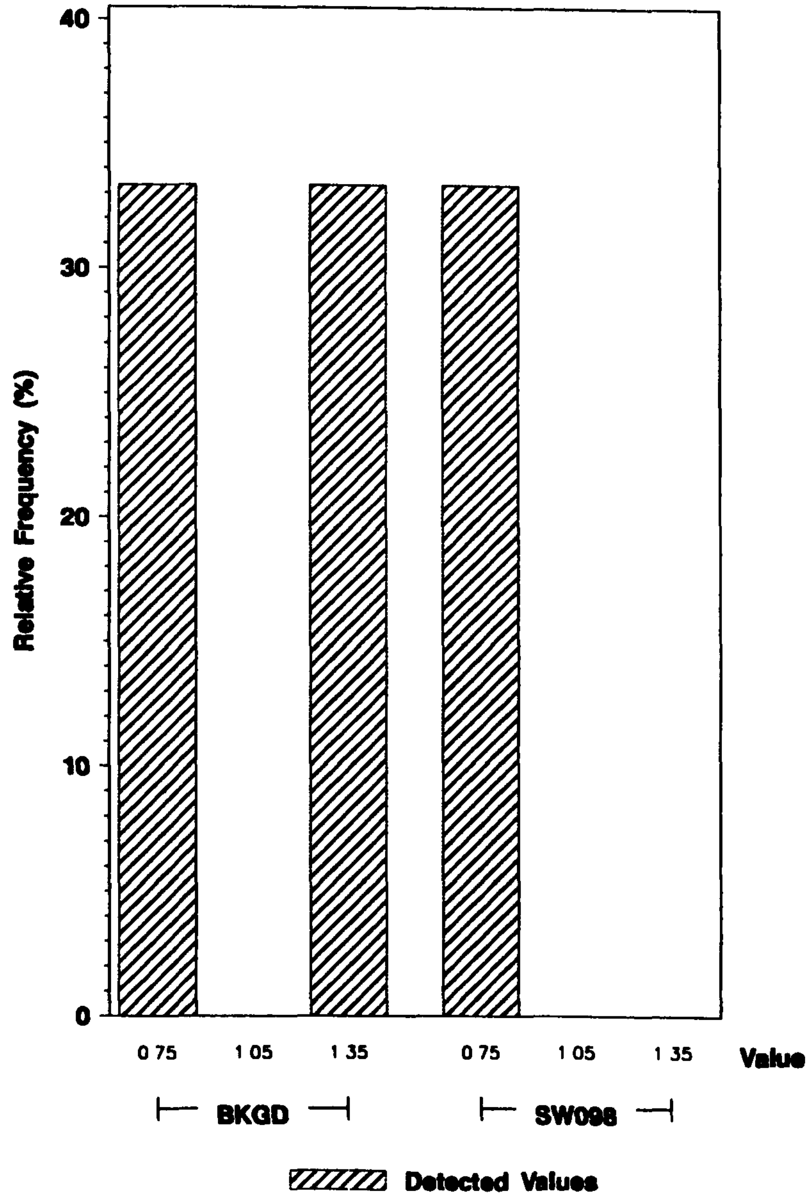
ANALYTE=RADIUM-226



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved RADIUM – 228 (pCi/L) In Surface Water

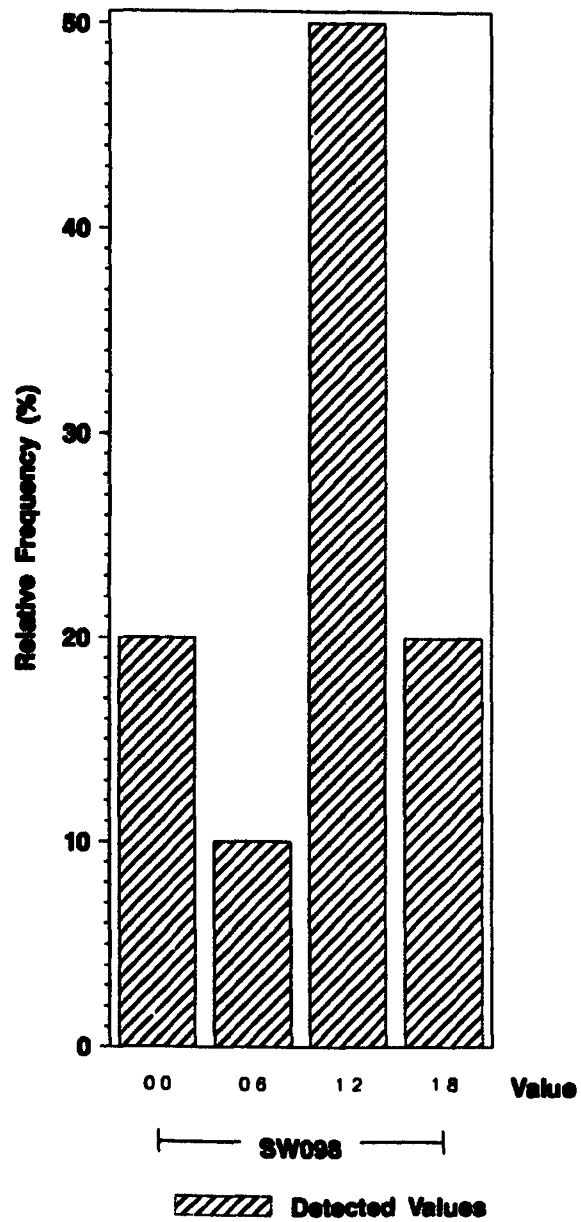
ANALYTE = RADIUM – 228



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved STRONTIUM – 89 (pCi/L) in Surface Water

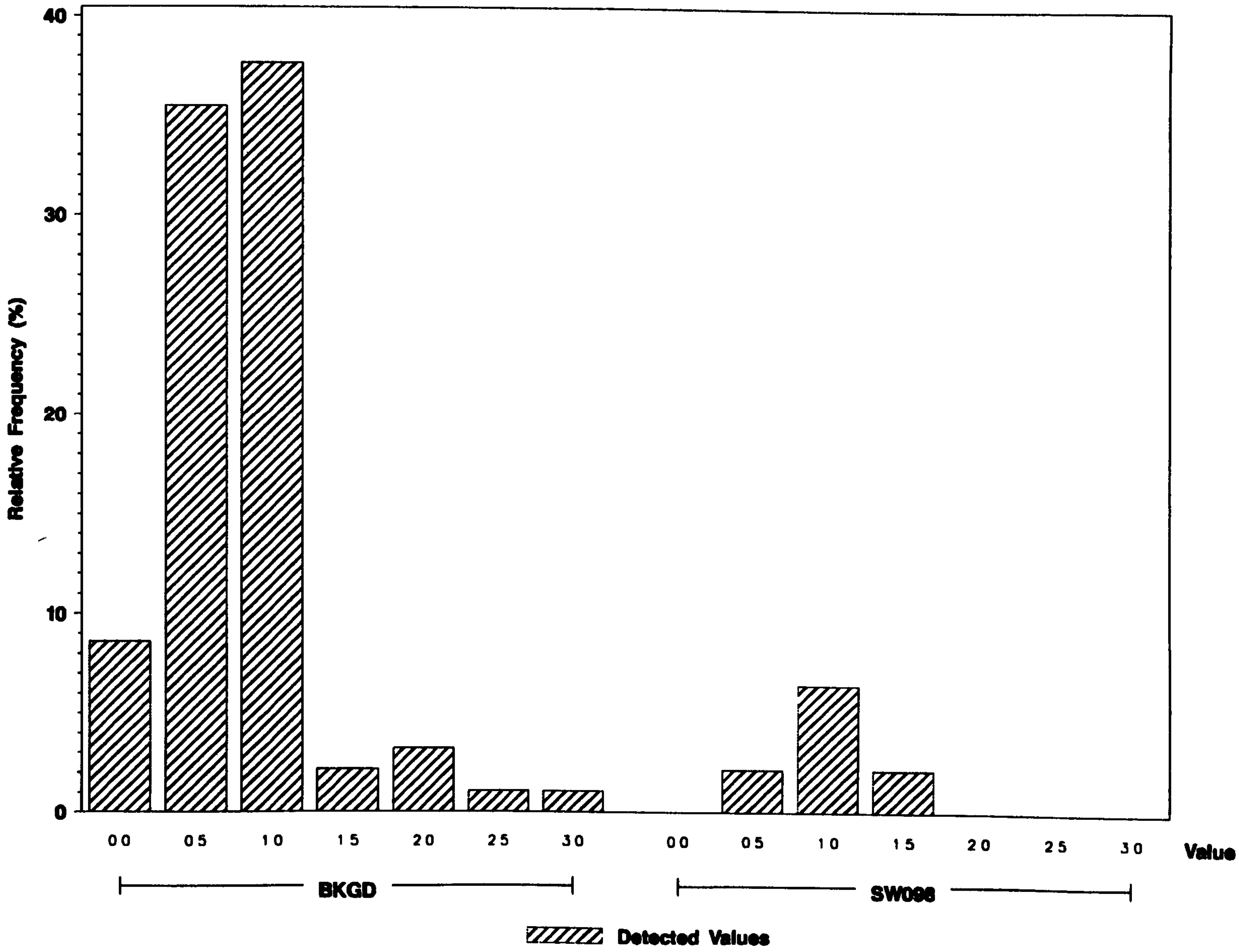
ANALYTE = STRONTIUM – 89



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved STRONTIUM-89,90 (pCi/L) in Surface Water

ANALYTE=STRONTIUM-89,90



Background vs OU7 Surface Water (SW098) Frequency Histogram

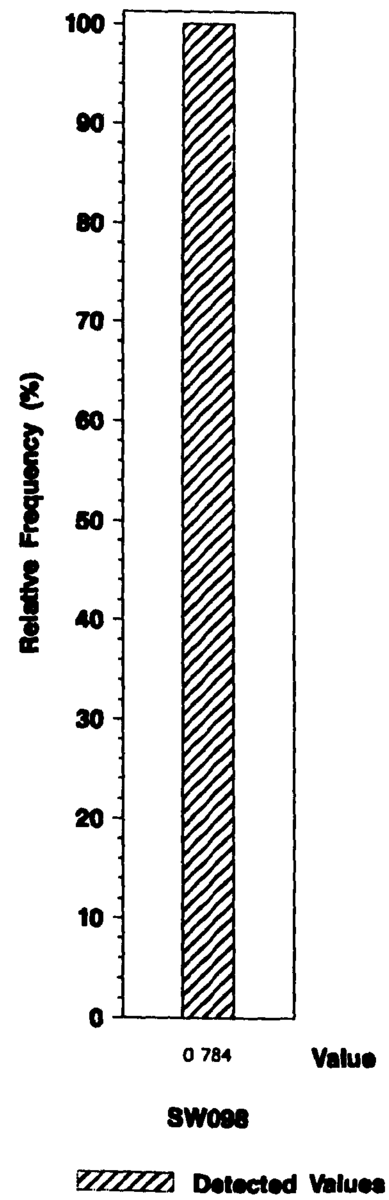
Dissolved STRONTIUM – 90 (pCi/L) in Surface Water

ANALYTE = STRONTIUM – 90

Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved TOTAL RADIOCESIUM (pCi/L) in Surface Water

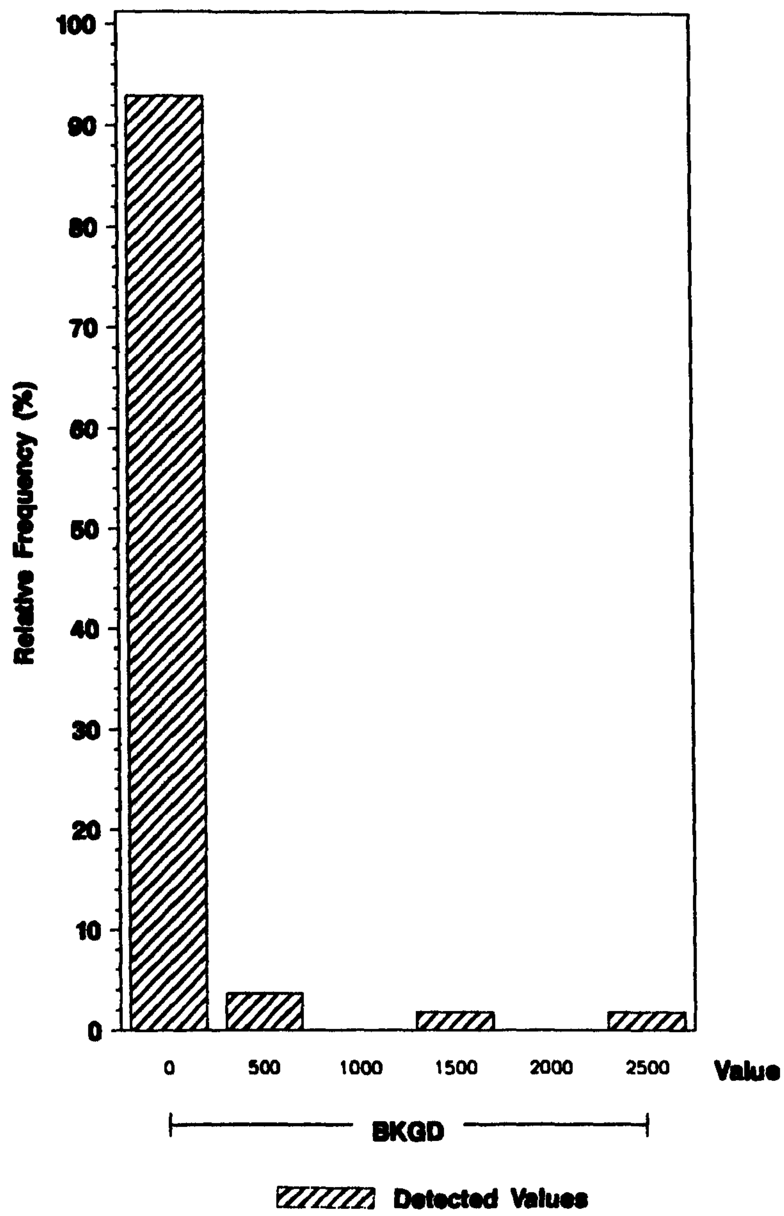
ANALYTE = TOTAL RADIOCESIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved TRITIUM (pCi/L) in Surface Water

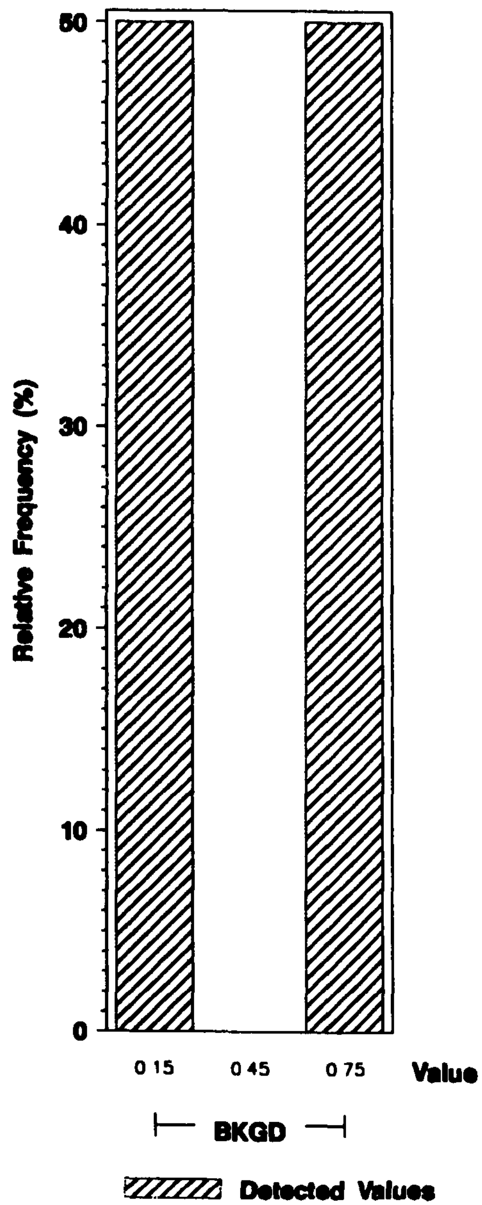
ANALYTE=TRITIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved URANIUM, TOTAL (pCi/L) In Surface Water

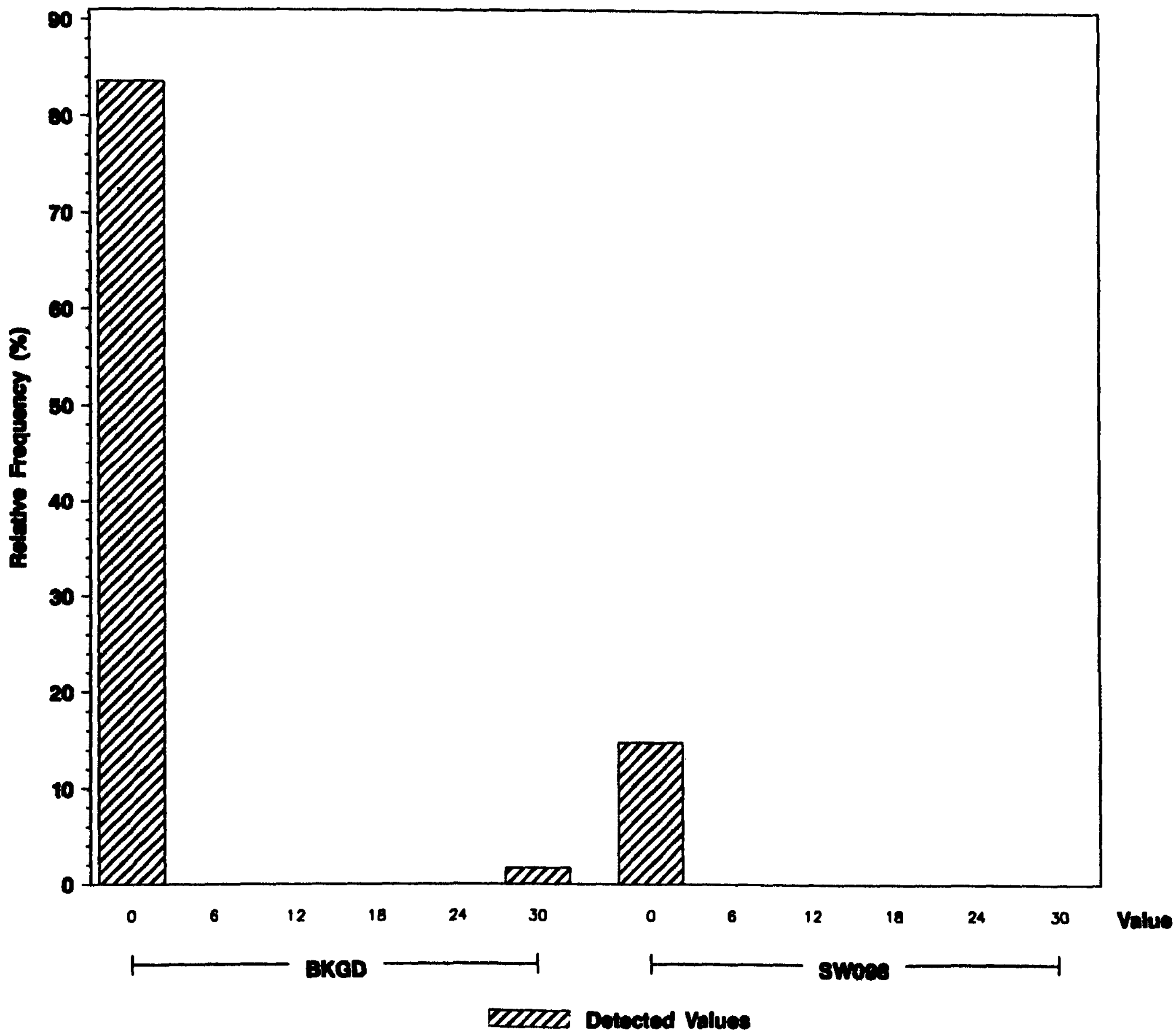
ANALYTE = URANIUM, TOTAL



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved URANIUM-233,-234 (pCi/L) in Surface Water

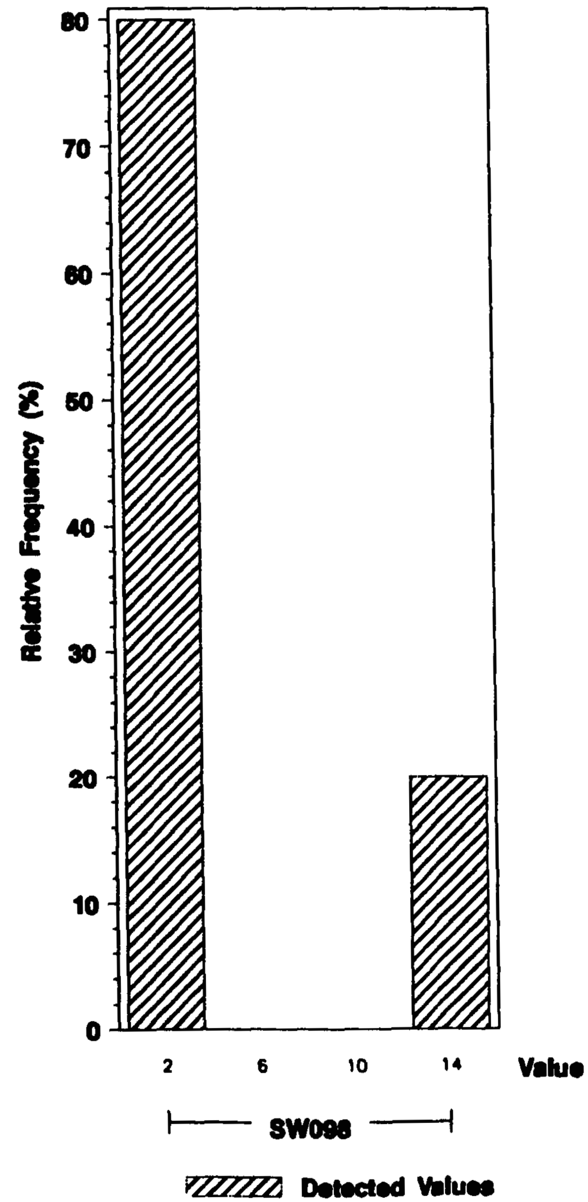
ANALYTE=URANIUM-233,-234



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved URANIUM – 234 (pCi/L) in Surface Water

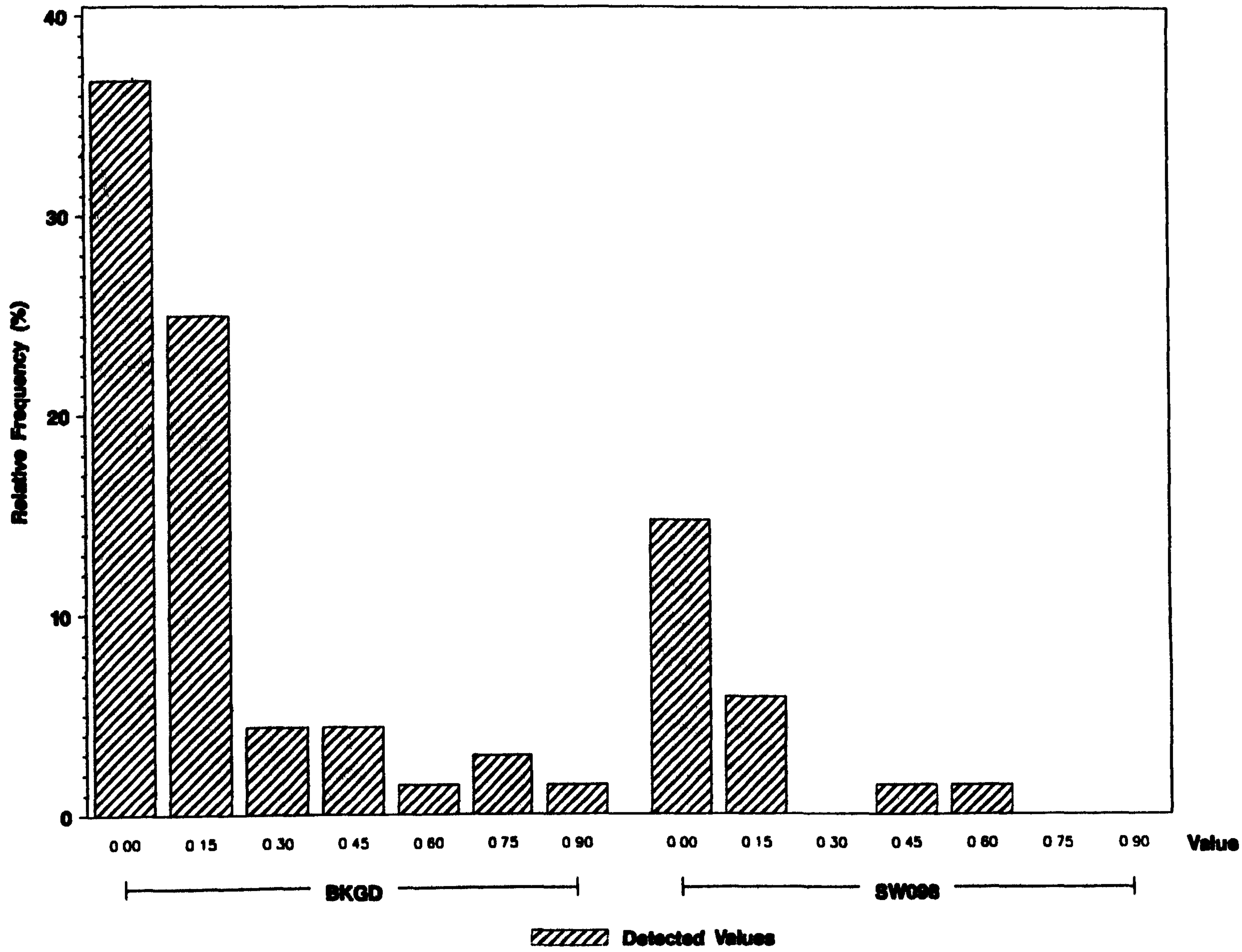
ANALYTE = URANIUM – 234



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved URANIUM – 235 (pCI/L) In Surface Water

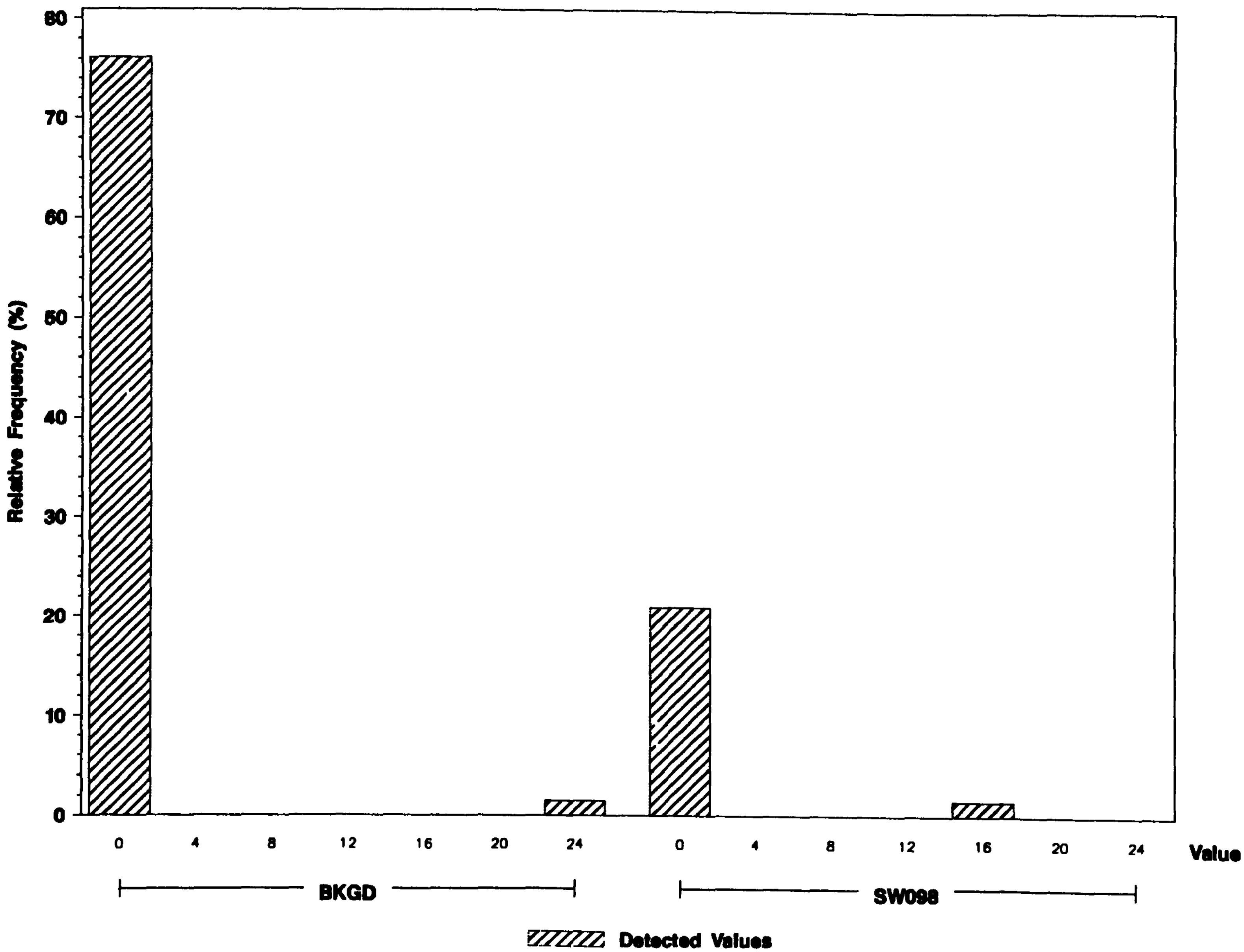
ANALYTE = URANIUM – 235



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved URANIUM – 238 (pCi/L) in Surface Water

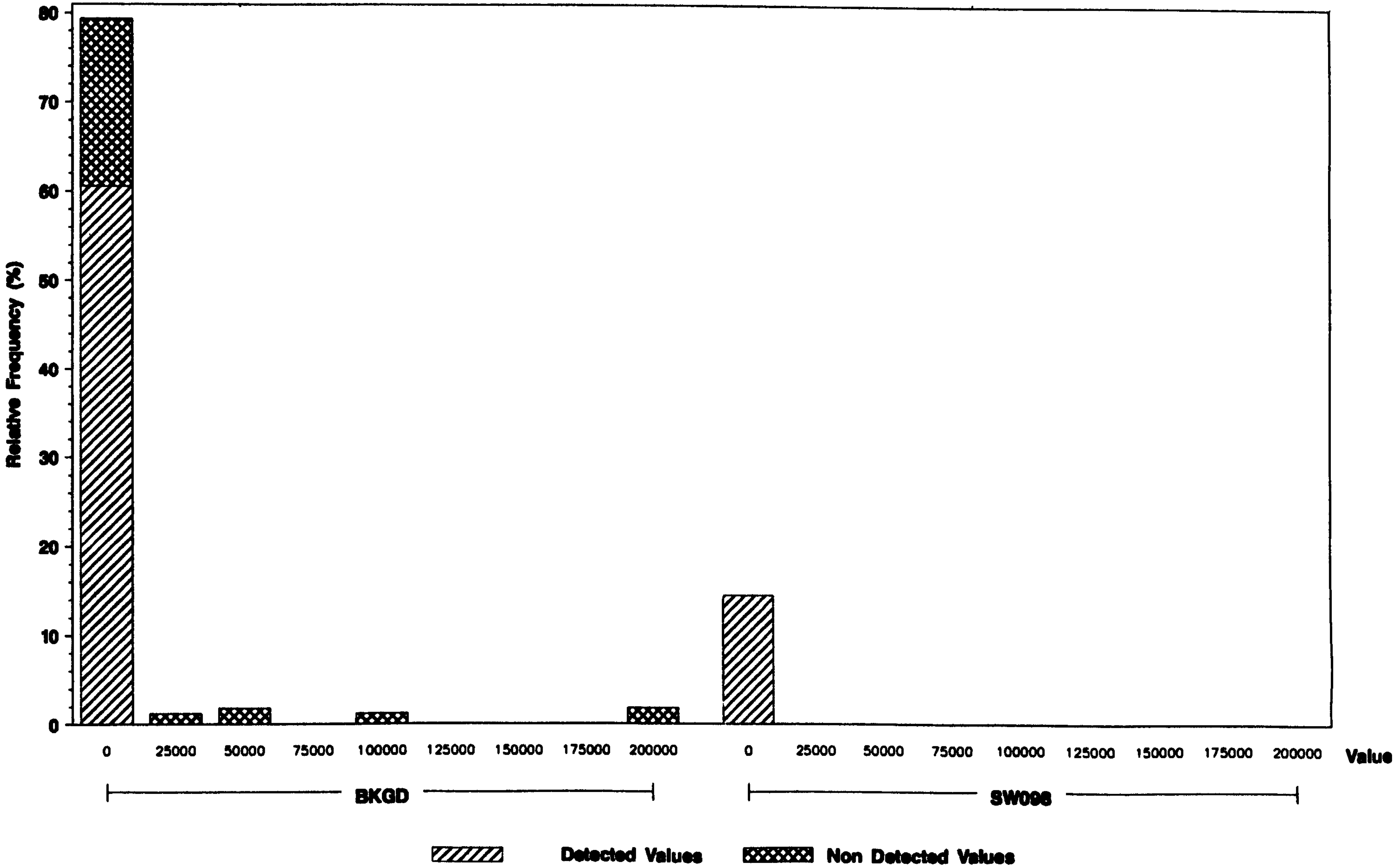
ANALYTE = URANIUM – 238



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved BARIUM (ug/L) in Surface Water

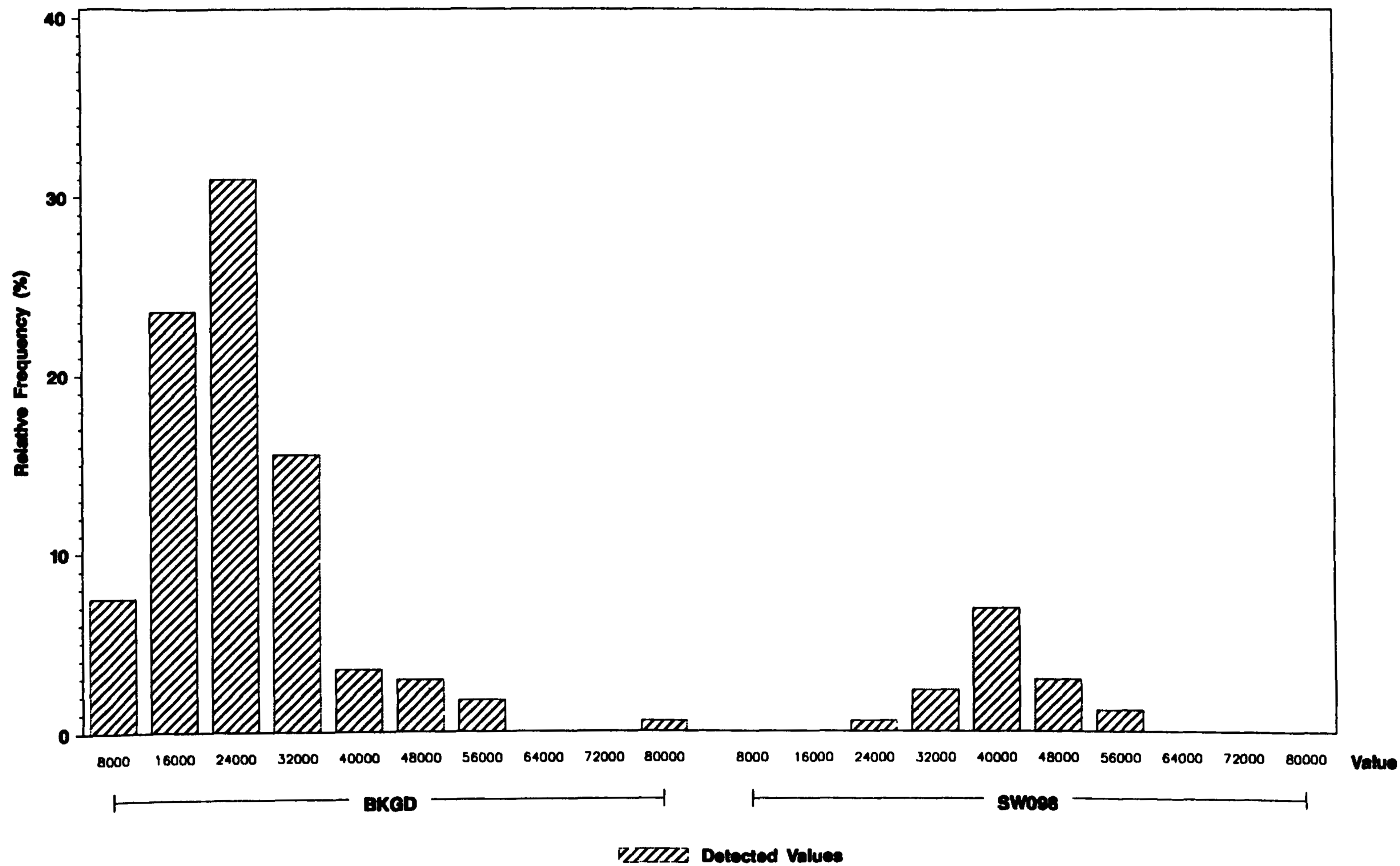
ANALYTE=BARIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved CALCIUM (ug/L) in Surface Water

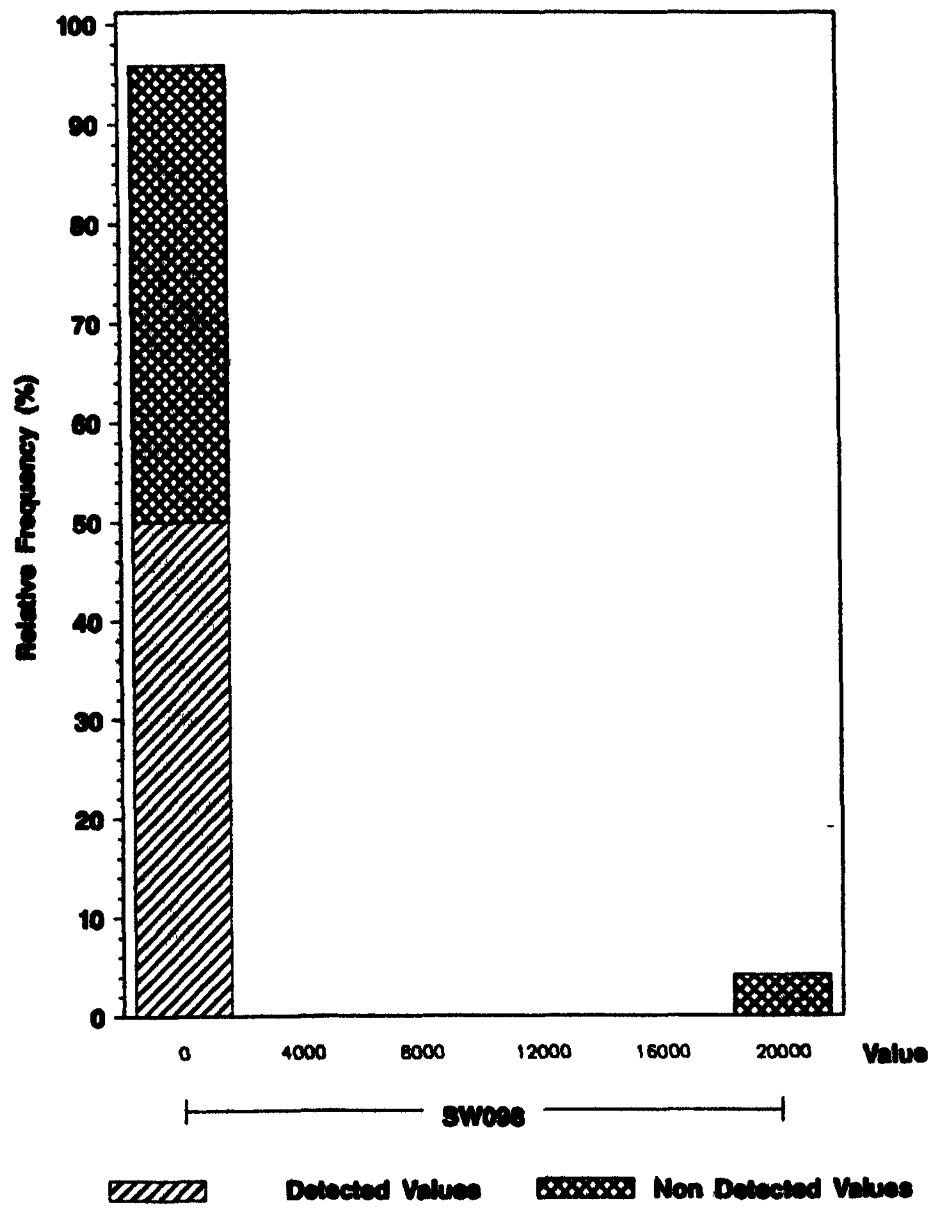
ANALYTE=CALCIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved COPPER (ug/L) in Surface Water

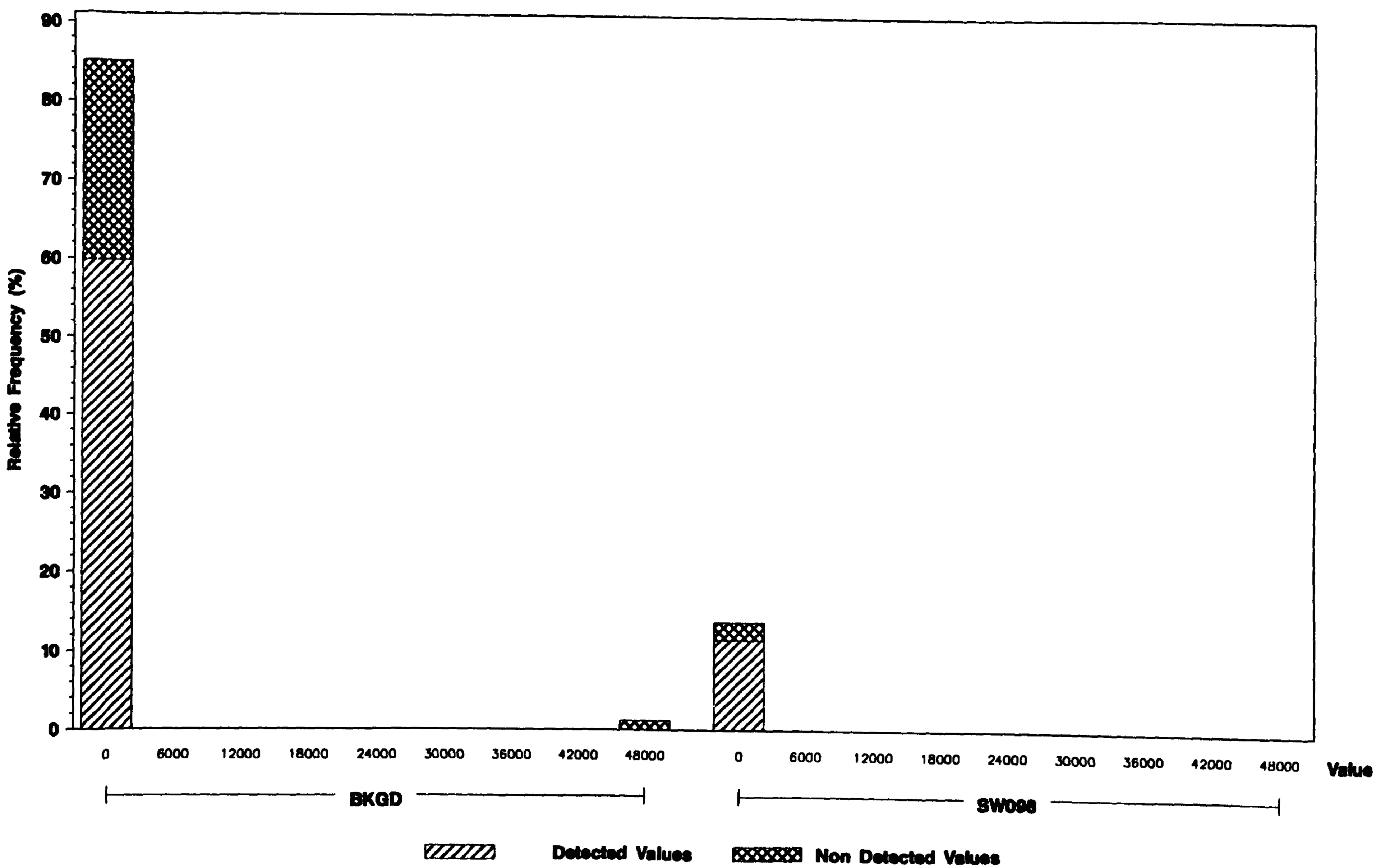
ANALYTE=COPPER



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved IRON (ug/L) in Surface Water

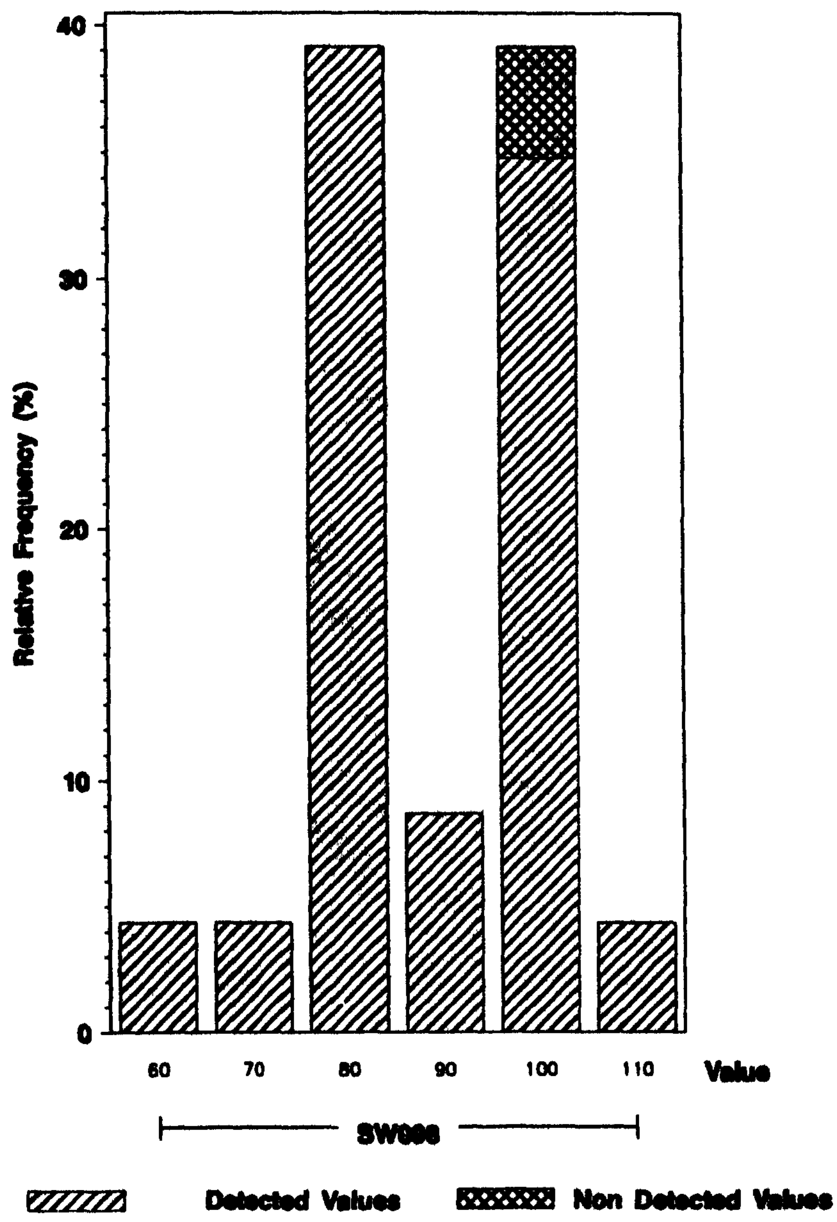
ANALYTE=IRON



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved LITHIUM (ug/L) in Surface Water

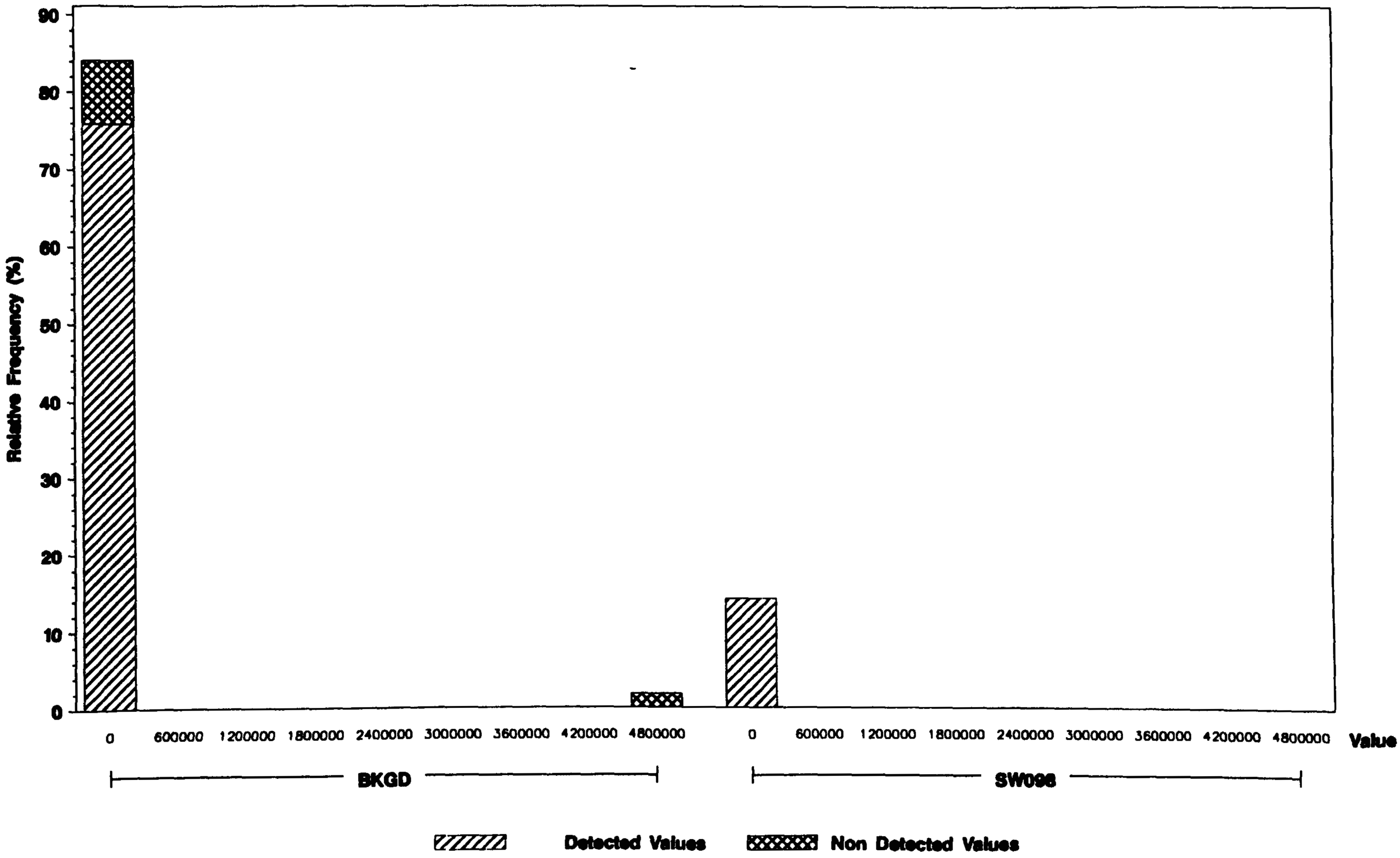
ANALYTE=LITHIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved MAGNESIUM (ug/L) in Surface Water

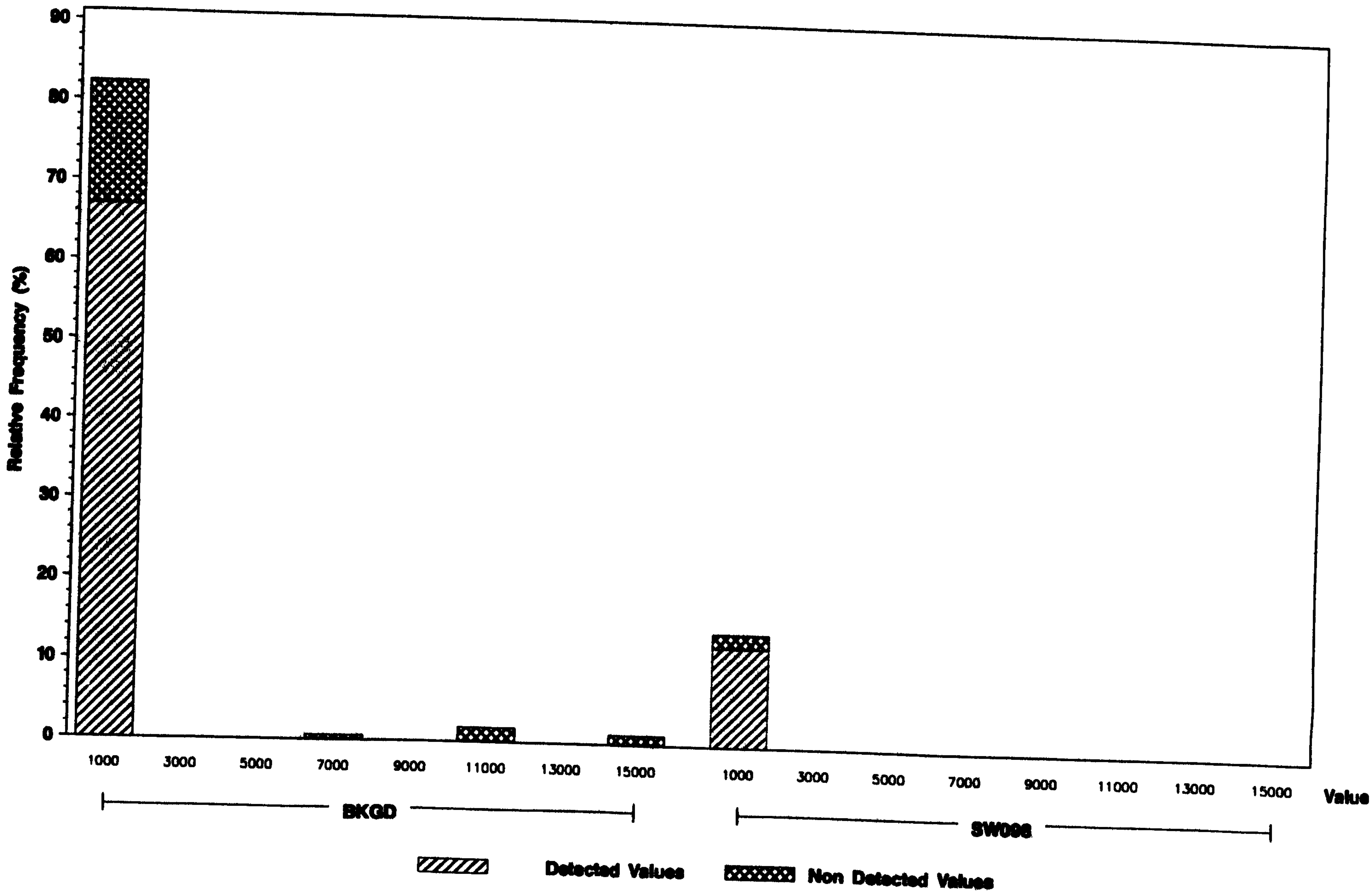
ANALYTE=MAGNESIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved MANGANESE (ug/L) in Surface Water

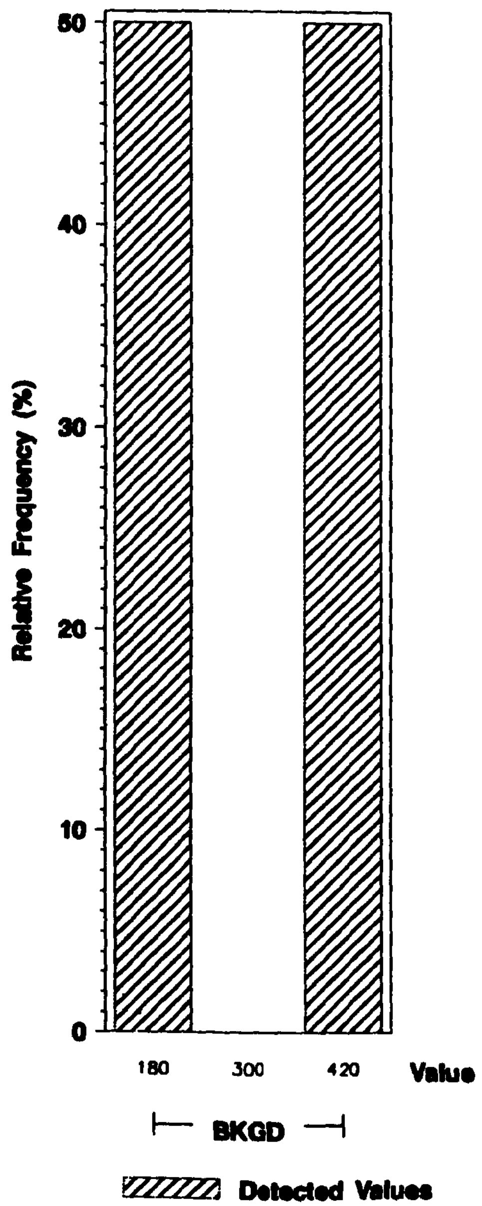
ANALYTE=MANGANESE



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved PHOSPHORUS (ug/L) in Surface Water

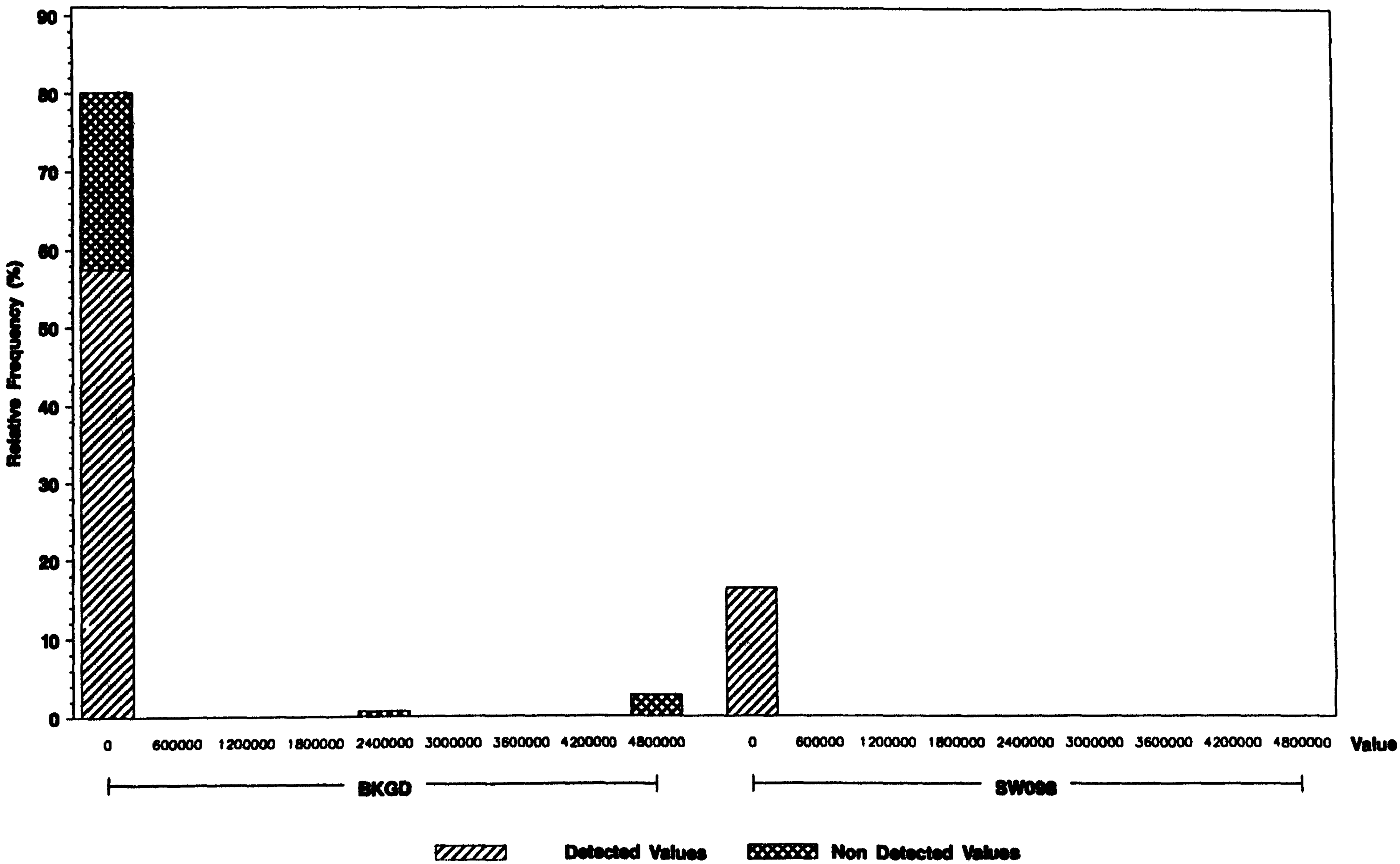
ANALYTE = PHOSPHORUS



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved POTASSIUM (ug/L) In Surface Water

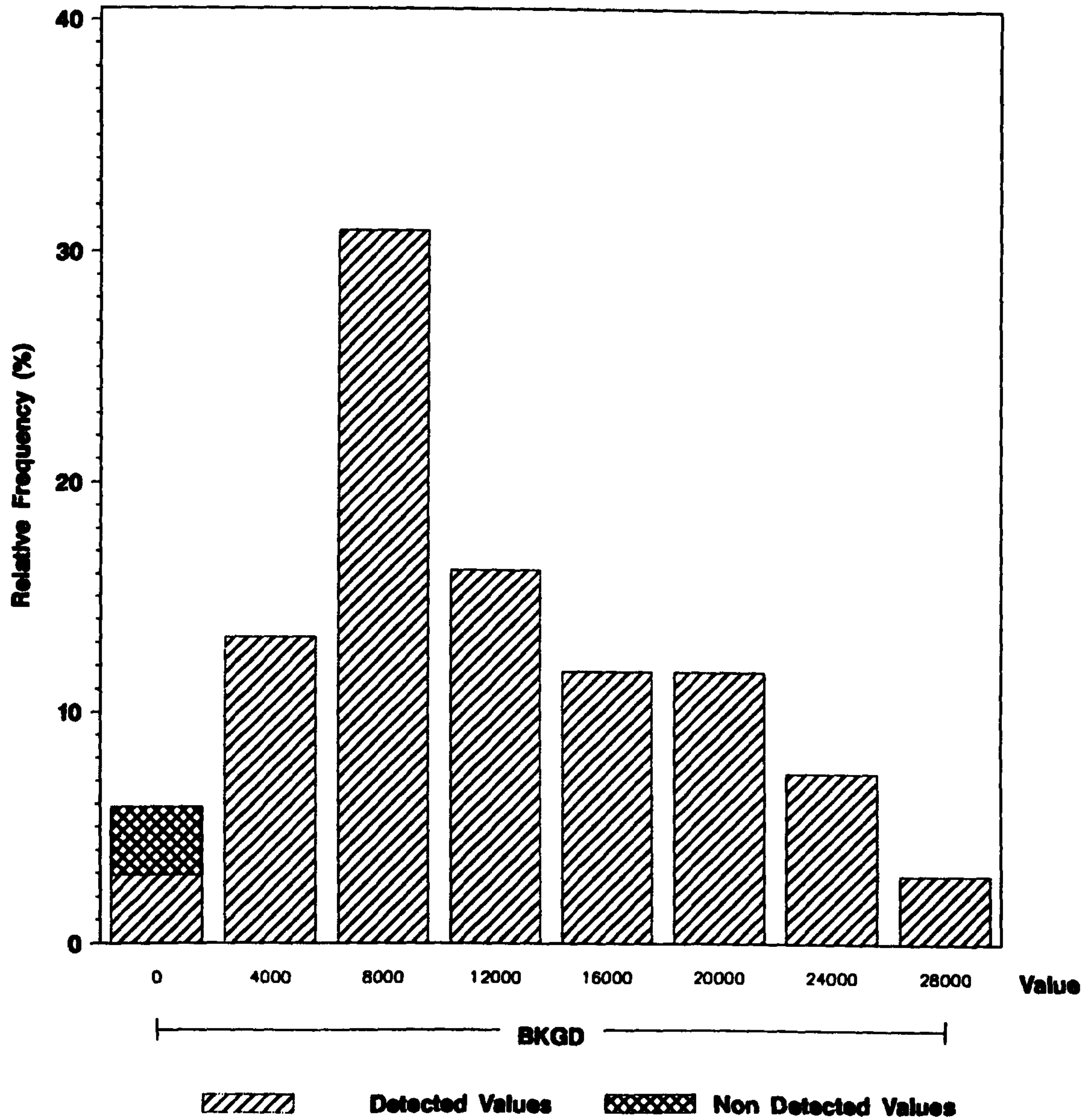
ANALYTE=POTASSIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved SILICA (ug/L) in Surface Water

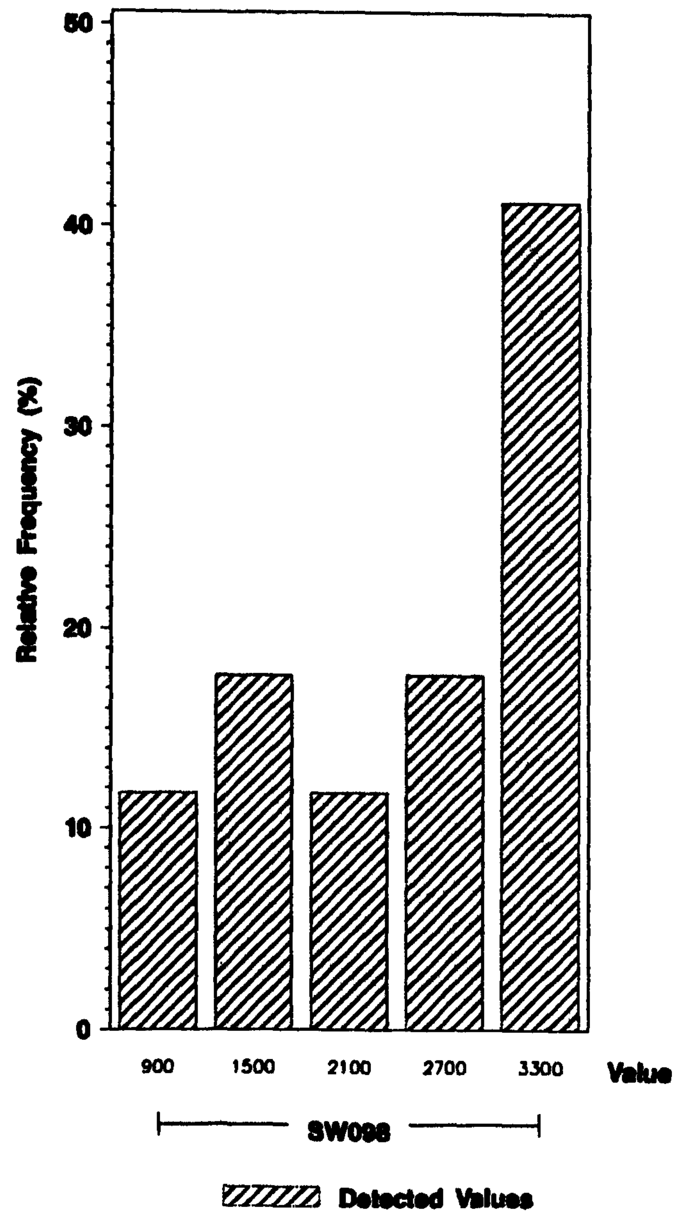
ANALYTE = SILICA



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved SILICON (ug/L) in Surface Water

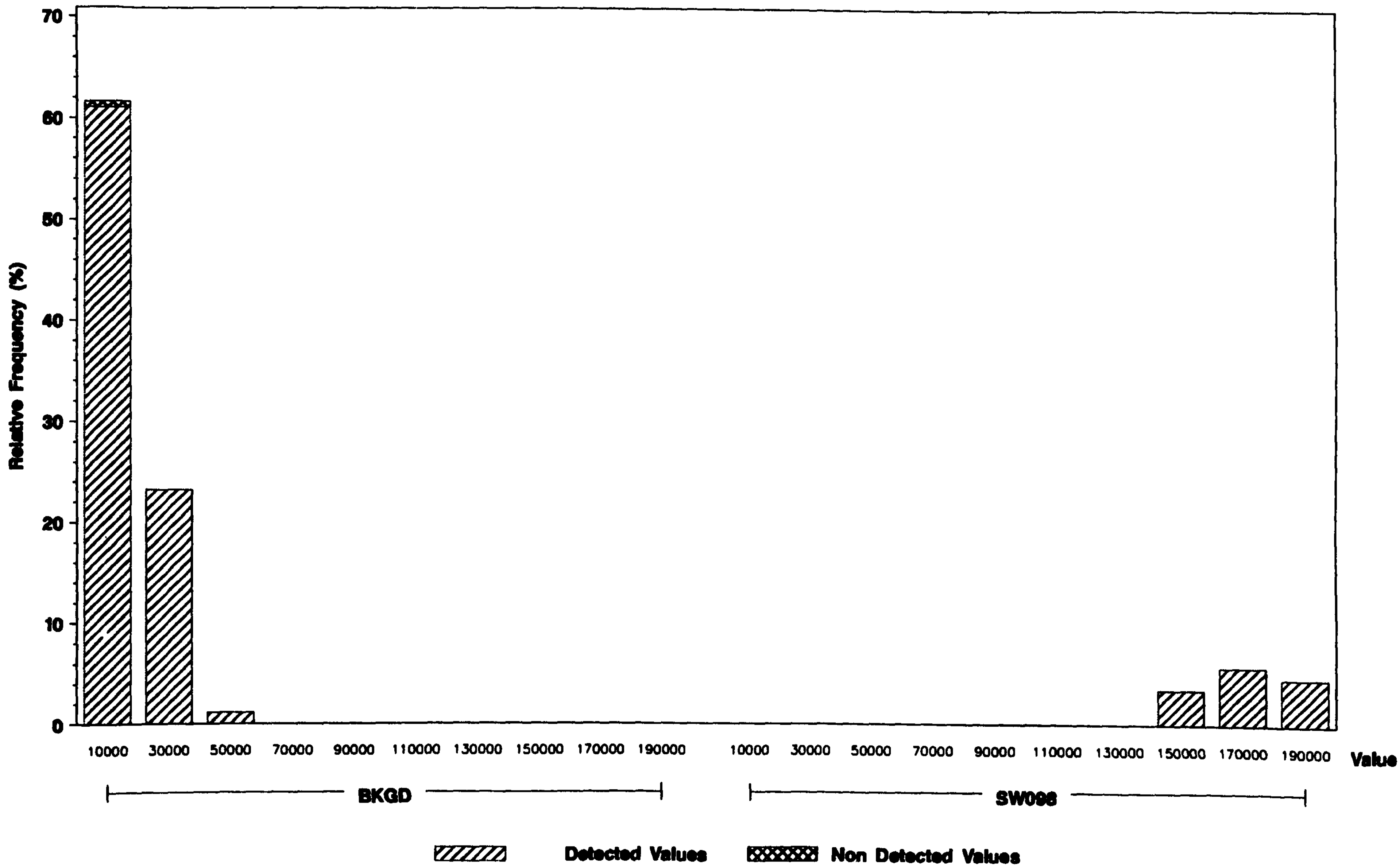
ANALYTE=SILICON



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved SODIUM (ug/L) in Surface Water

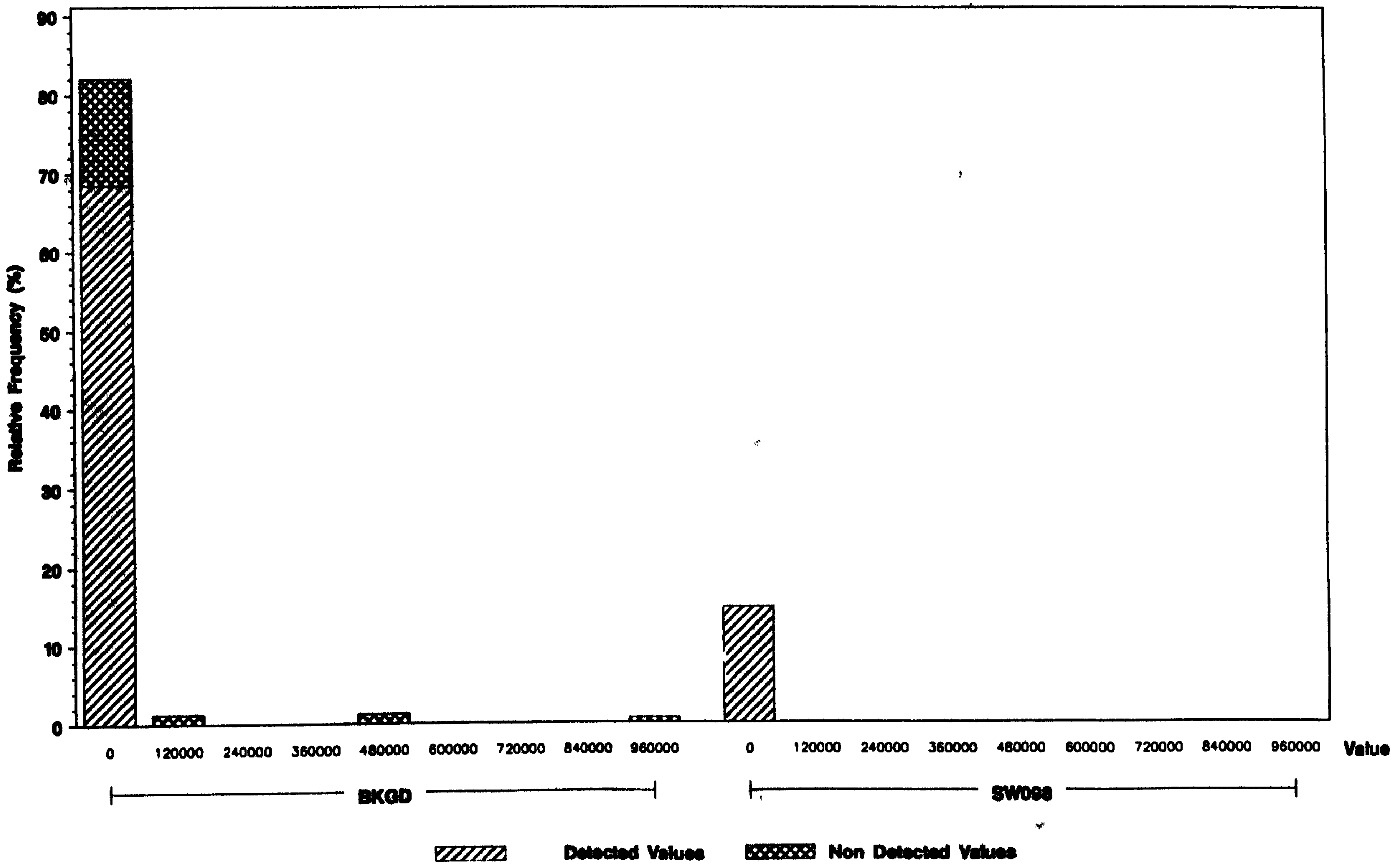
ANALYTE=SODIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved STRONTIUM (ug/L) In Surface Water

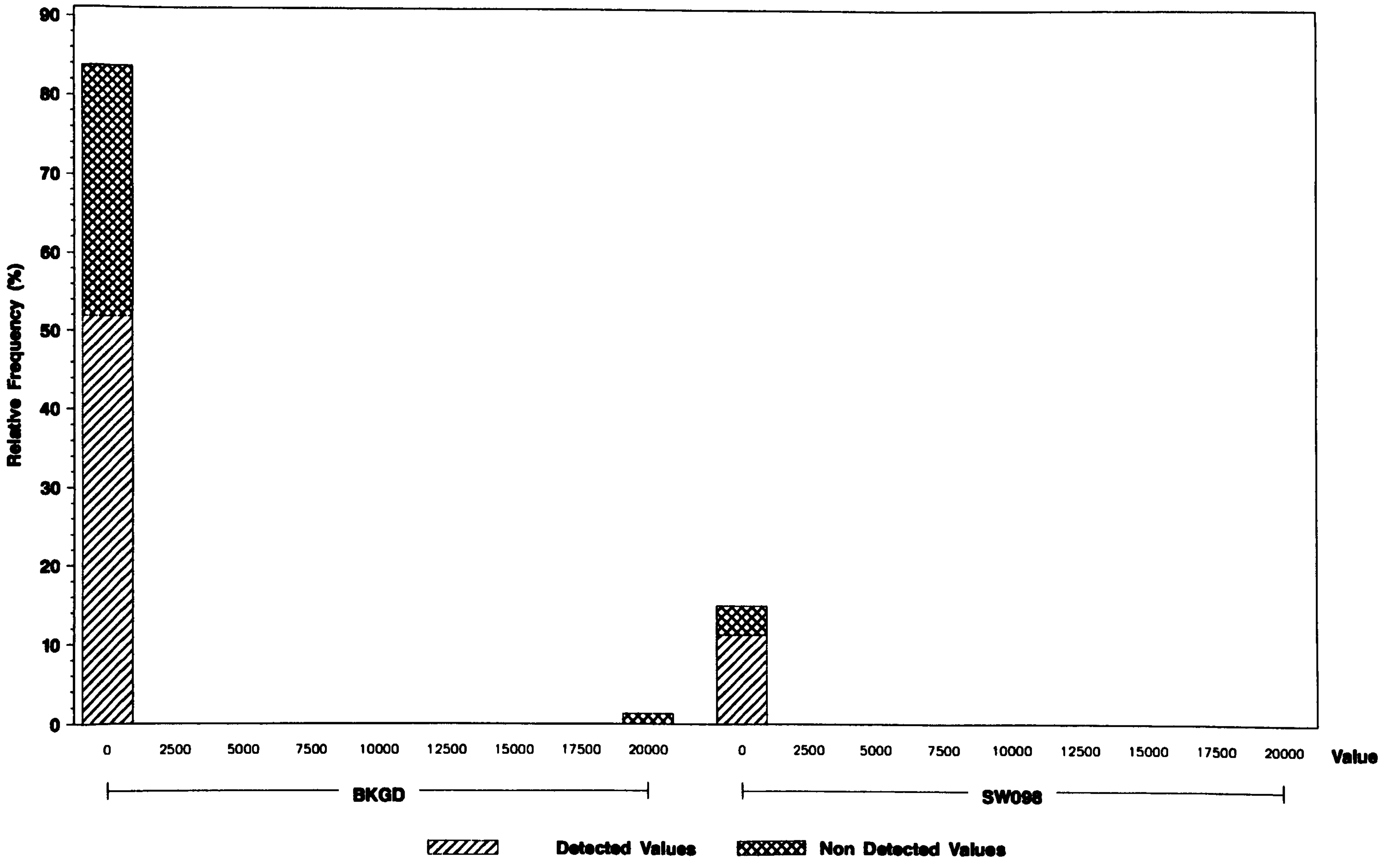
ANALYTE=STRONTIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Dissolved ZINC (ug/L) in Surface Water

ANALYTE=ZINC



Surface Water

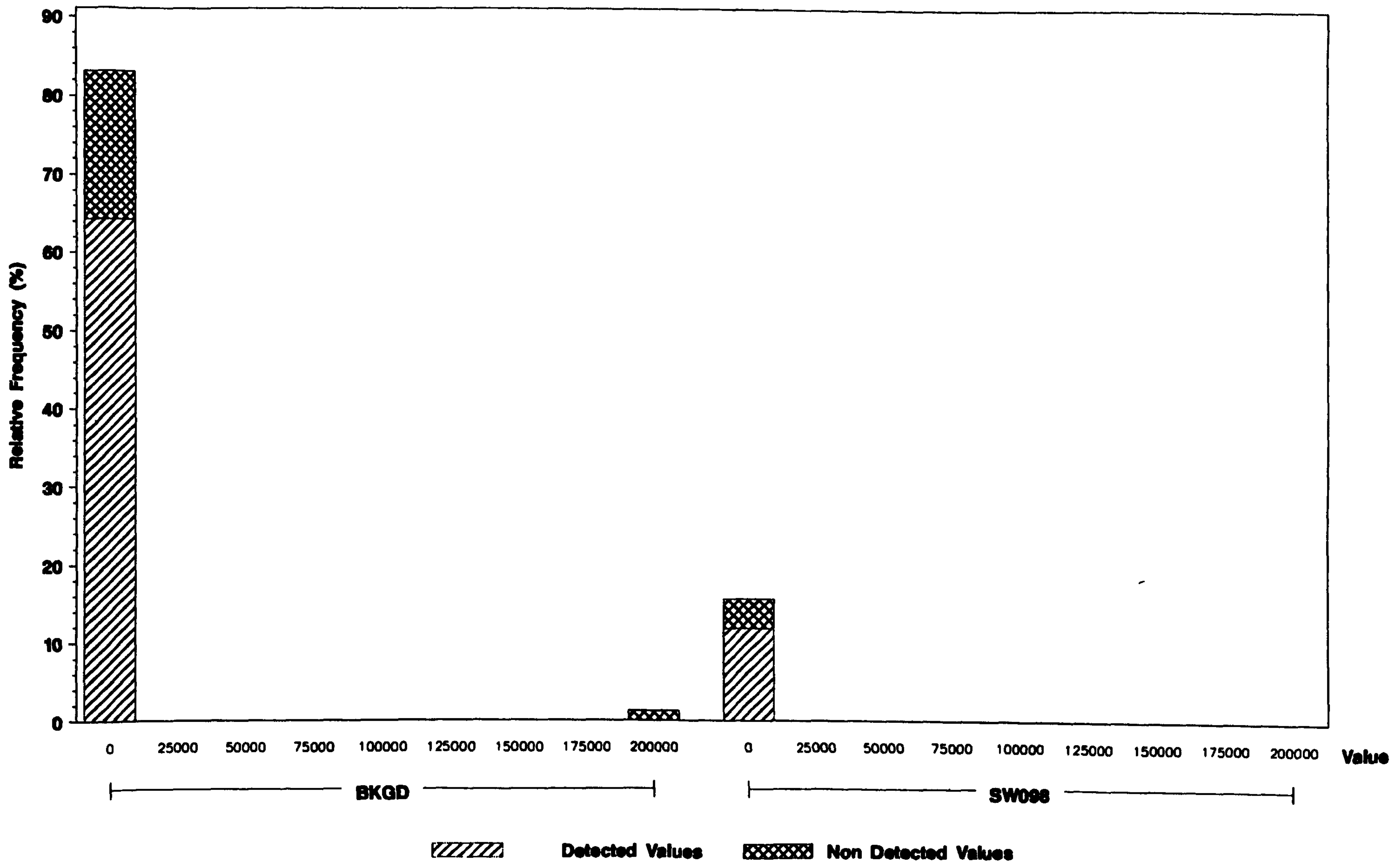
(Total)

Background vs. OU 7 (SW098)

Background vs OU7 Surface Water (SW098) Frequency Histogram

Total ALUMINUM (ug/L) in Surface Water

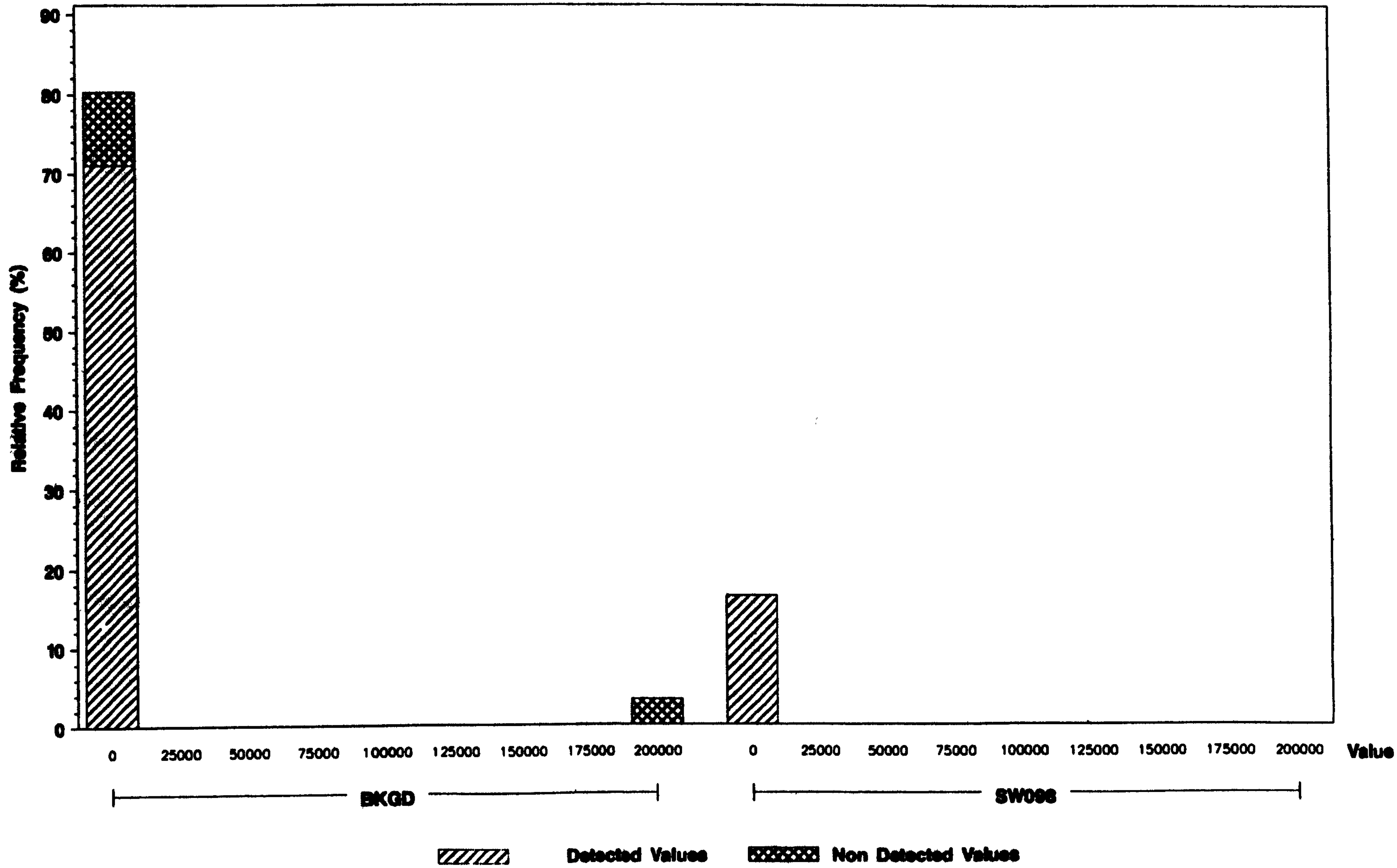
ANALYTE = ALUMINUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total BARIUM (ug/L) In Surface Water

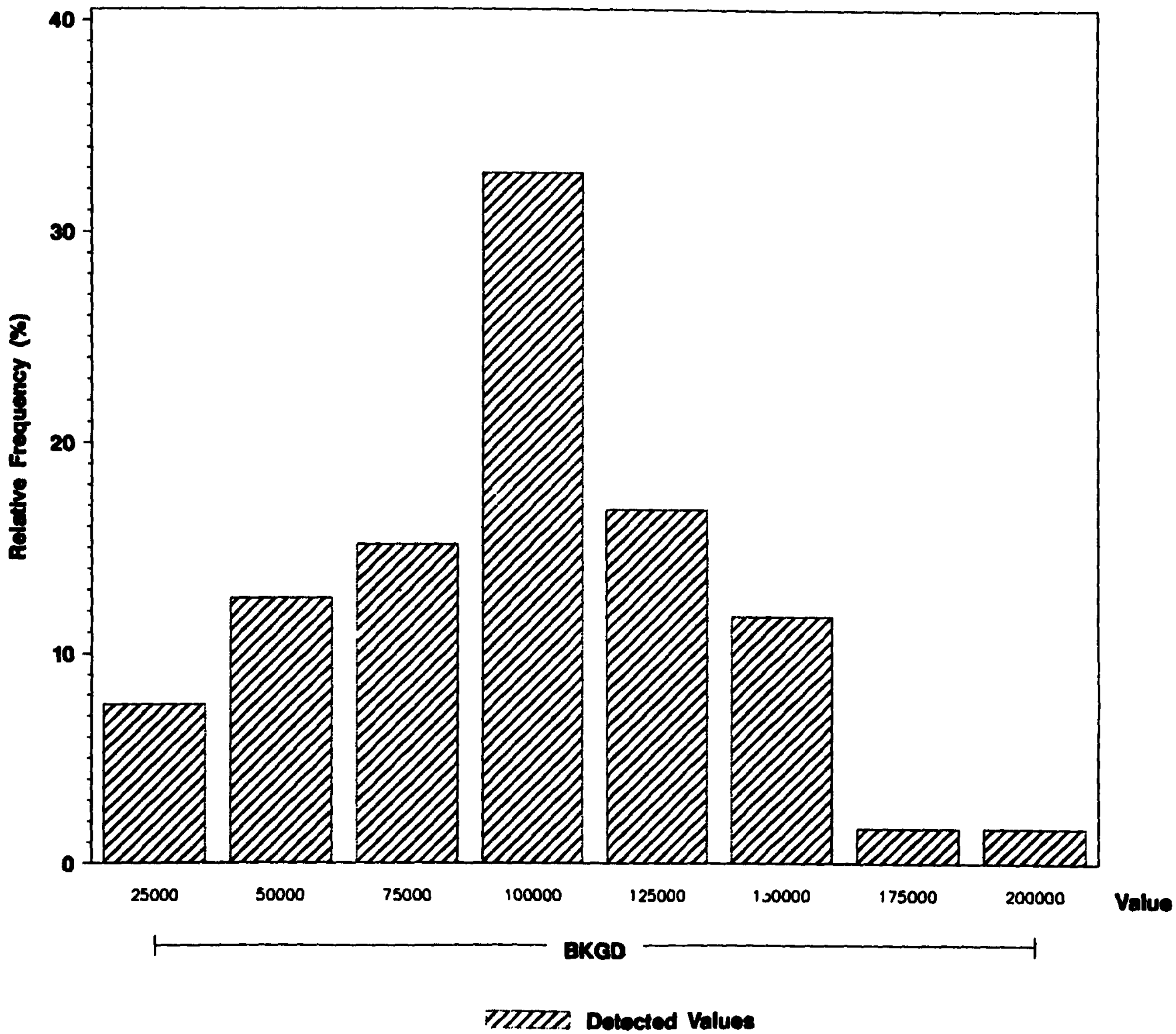
ANALYTE=BARIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total BICARBONATE (ug/L) in Surface Water

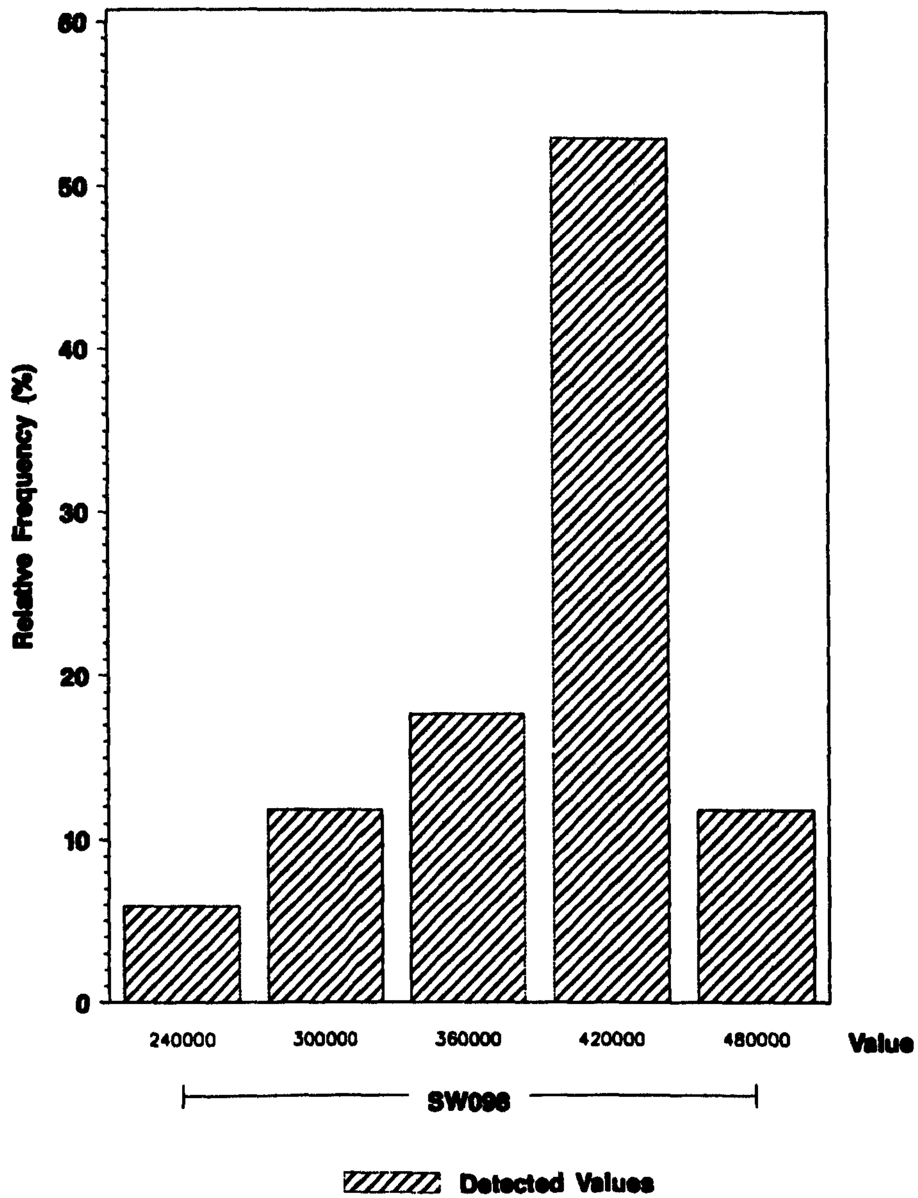
ANALYTE=BICARBONATE



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total BICARBONATE AS CACO3 (ug/L) In Surface Water

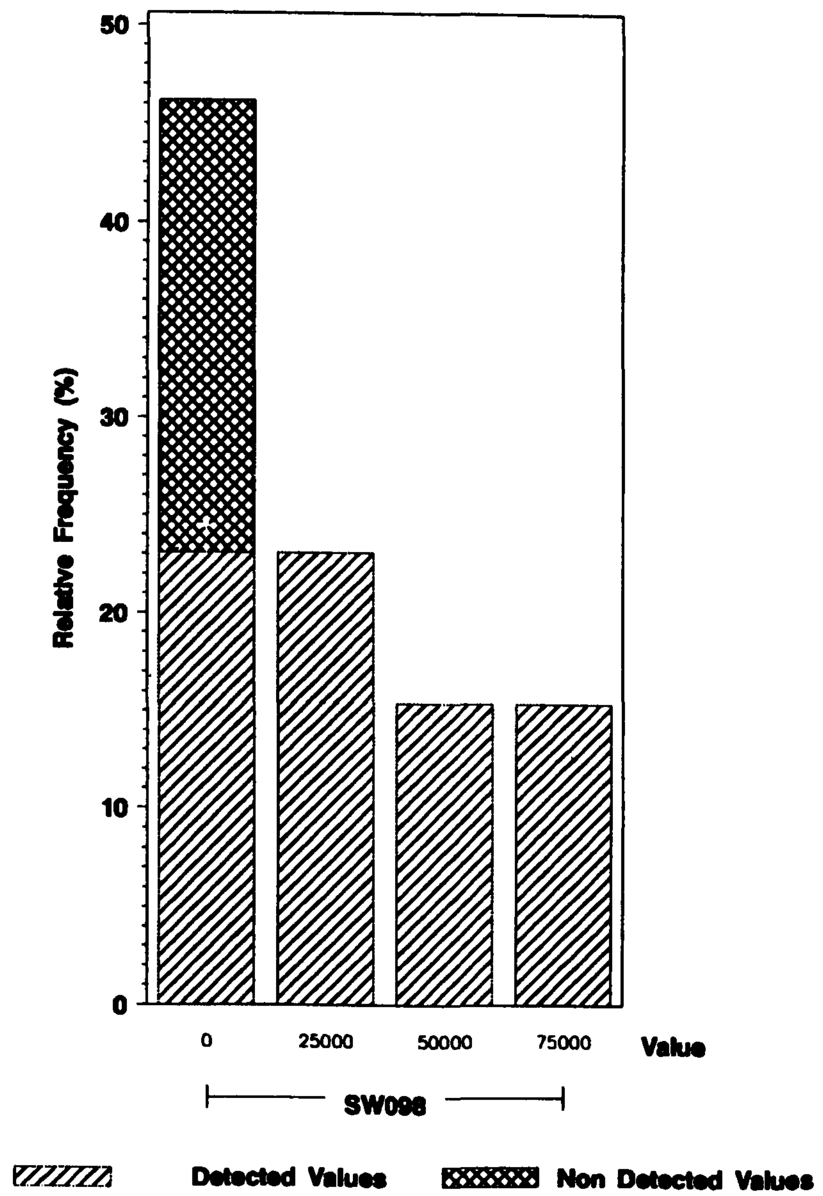
ANALYTE=BICARBONATE AS CACO3



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total CARBONATE AS CACO3 (ug/L) in Surface Water

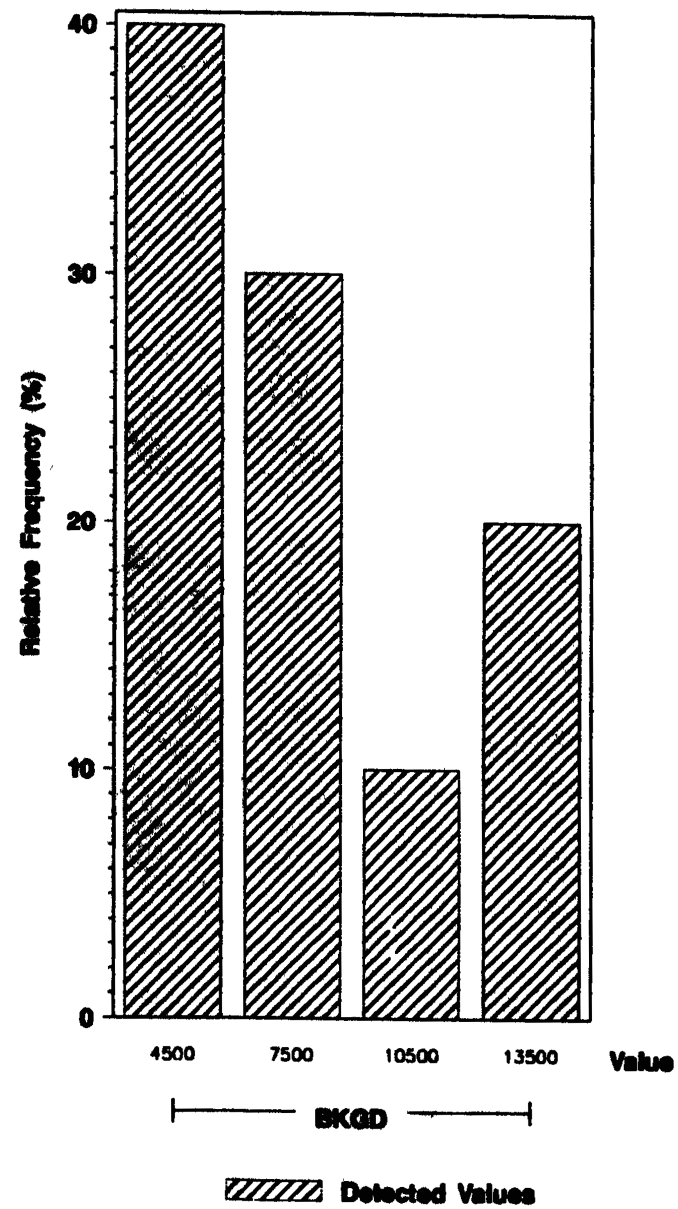
ANALYTE=CARBONATE AS CACO3



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total CBOD5 (ug/L) In Surface Water

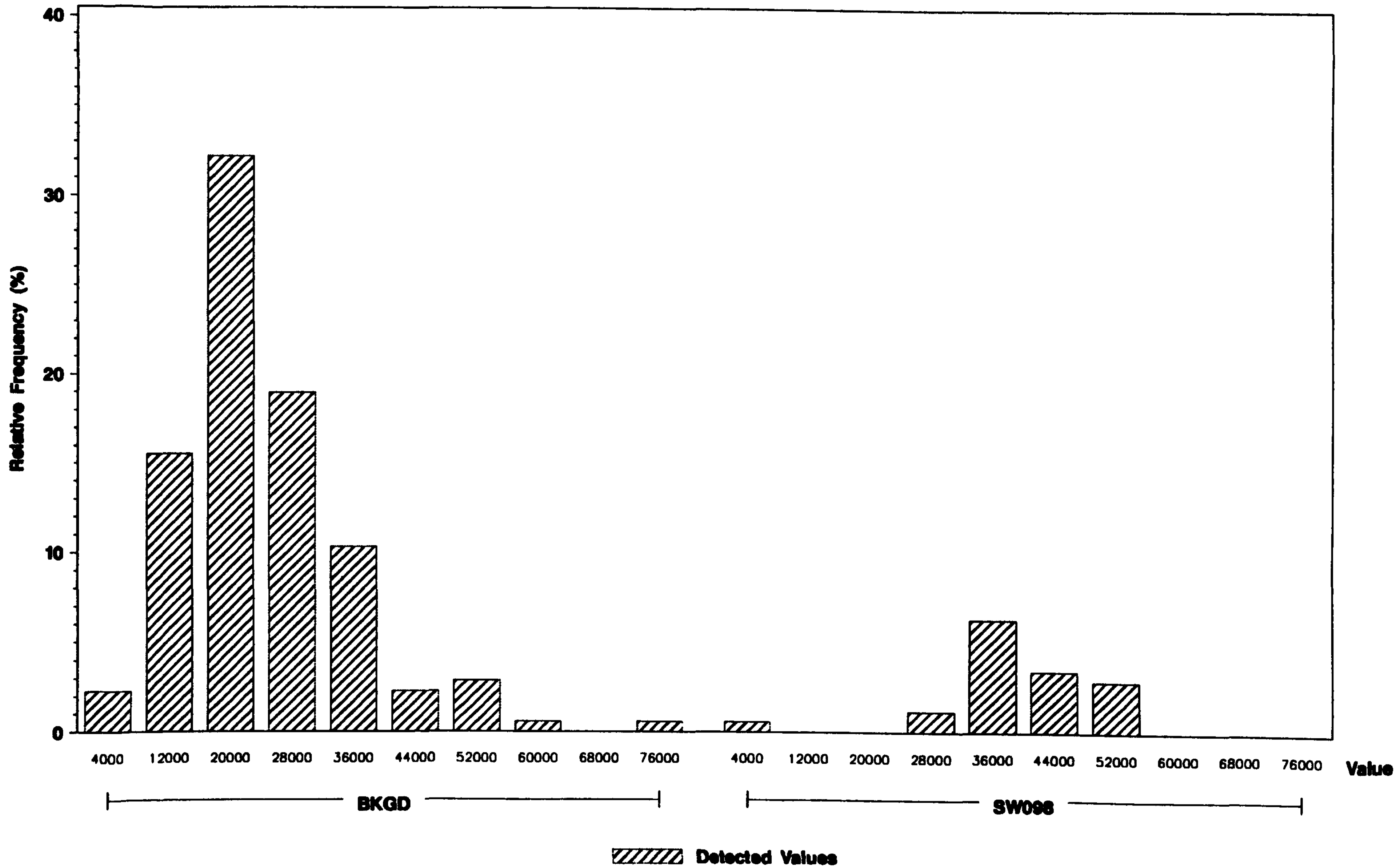
ANALYTE=CBOD5



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total CALCIUM (ug/L) in Surface Water

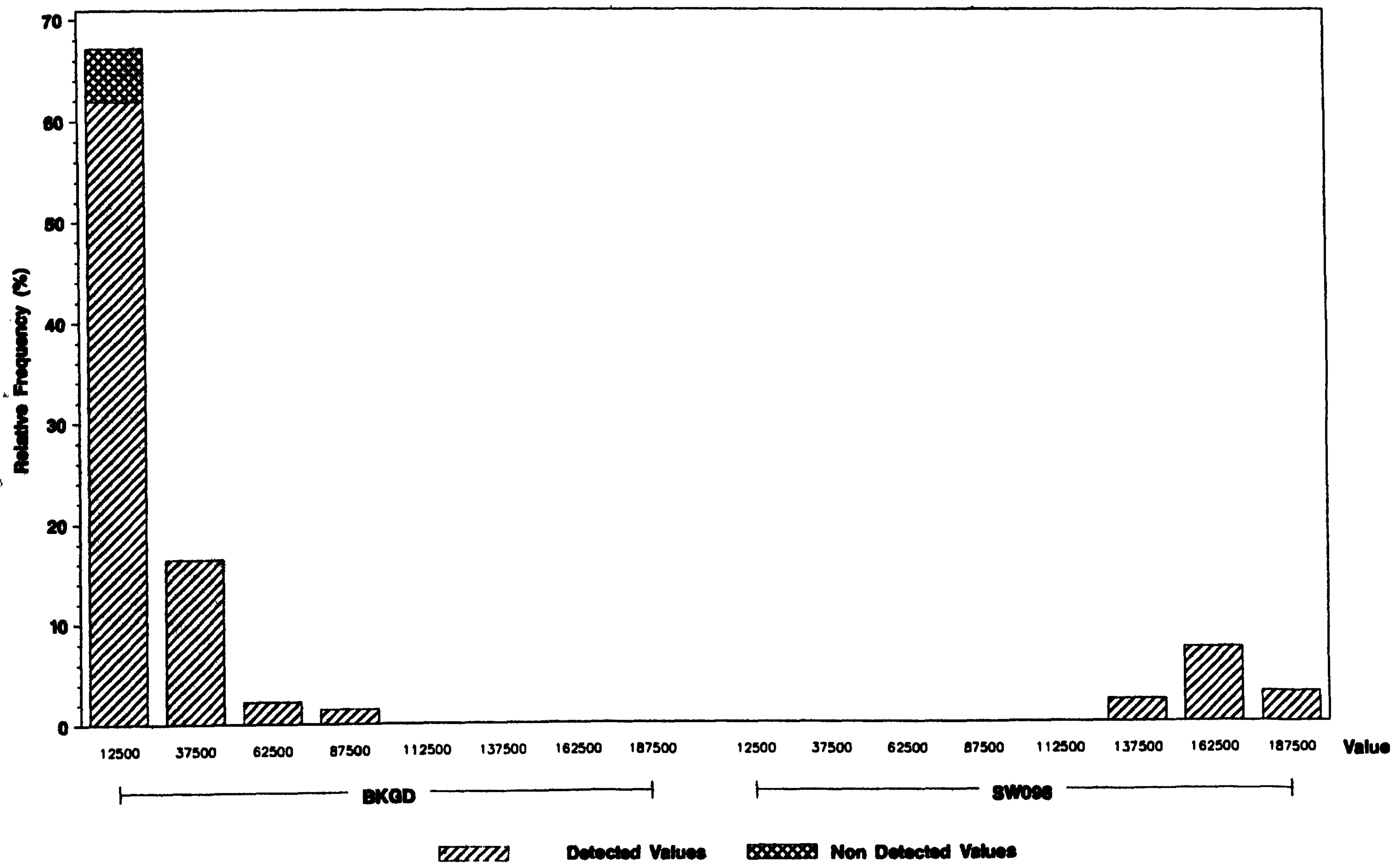
ANALYTE=CALCIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total CHLORIDE (ug/L) in Surface Water

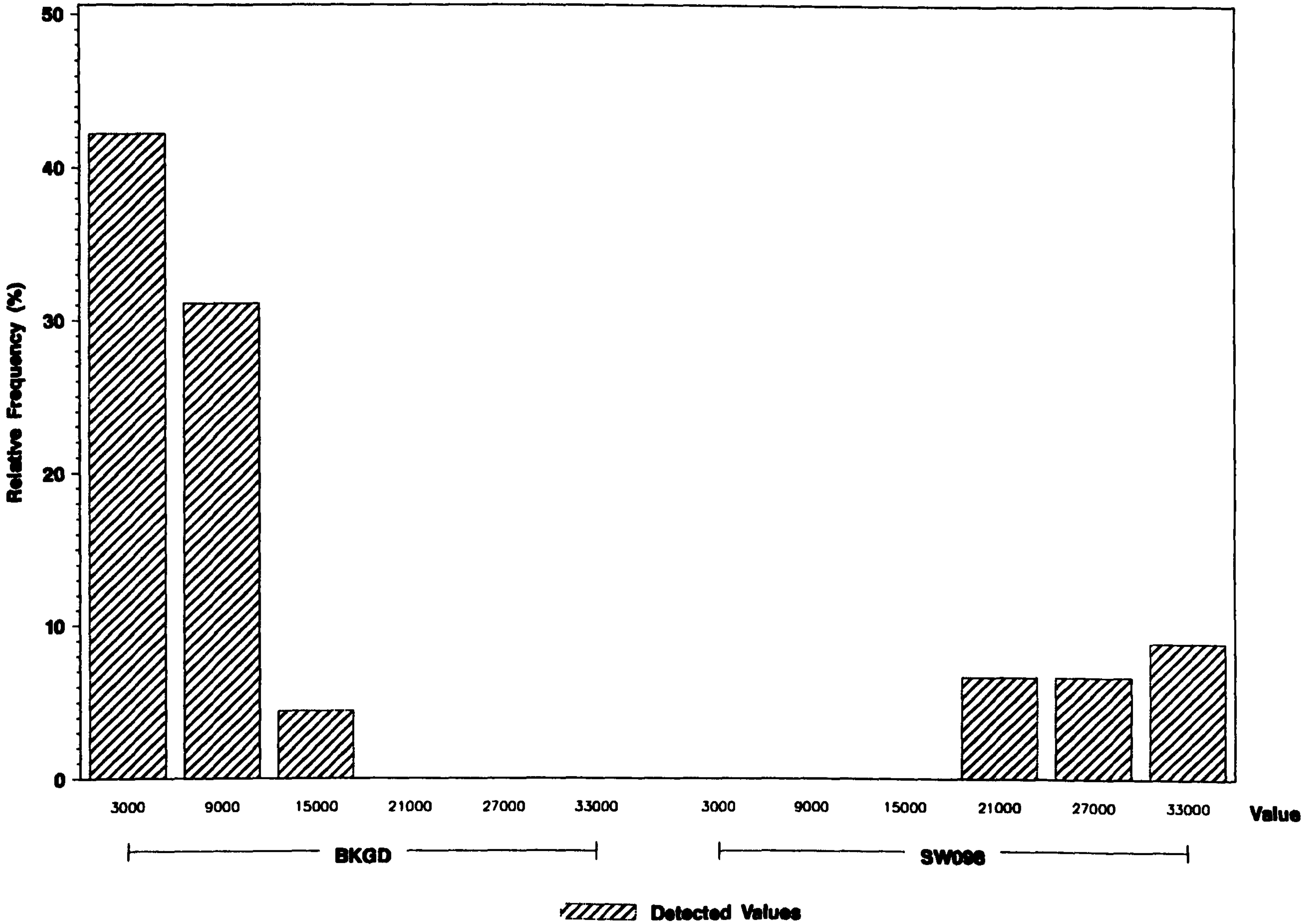
ANALYTE=CHLORIDE



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total DISSOLVED ORGANIC CARBON (ug/L) in Surface Water

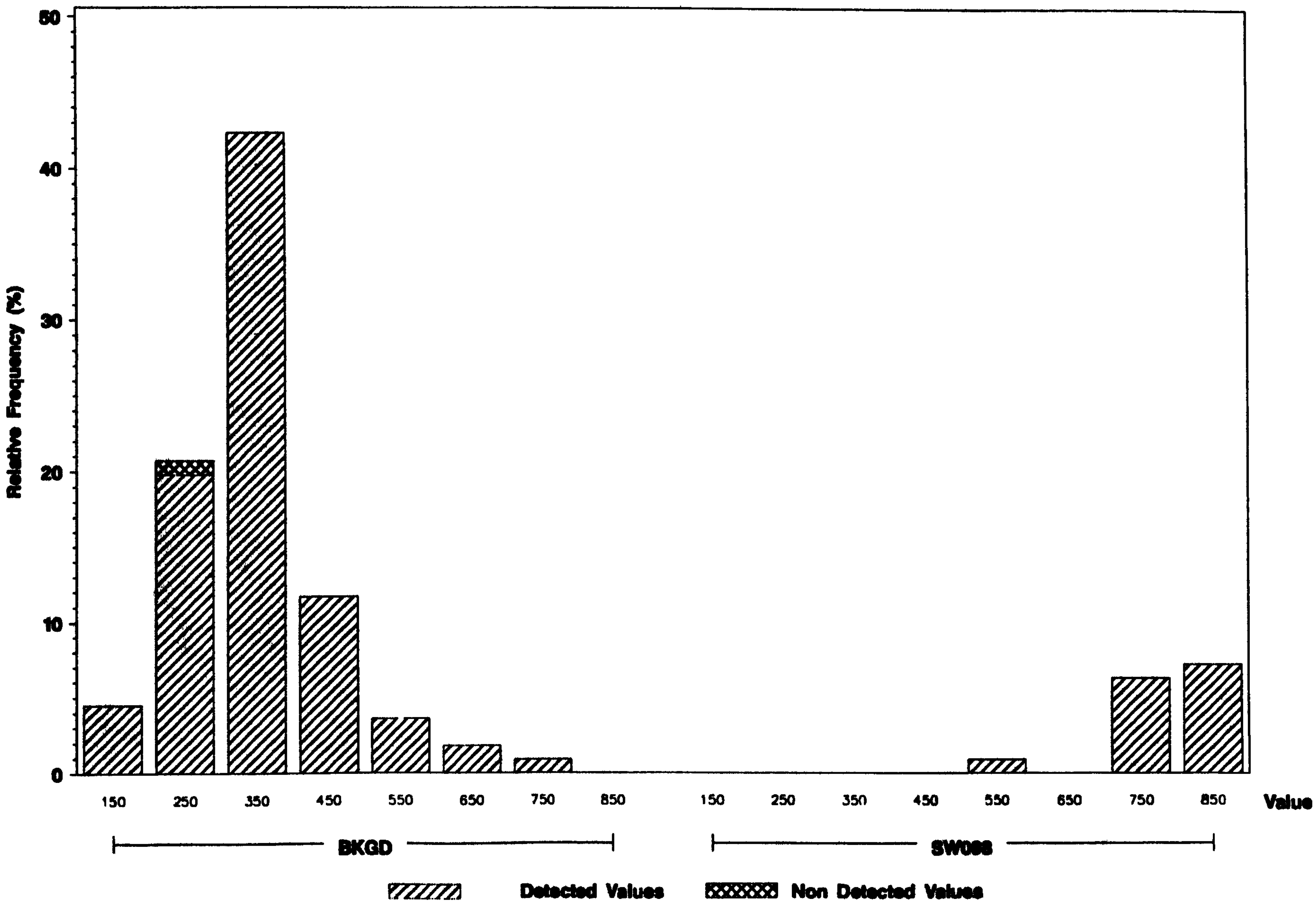
ANALYTE=DISSOLVED ORGANIC CARBON



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total FLUORIDE (ug/L) In Surface Water

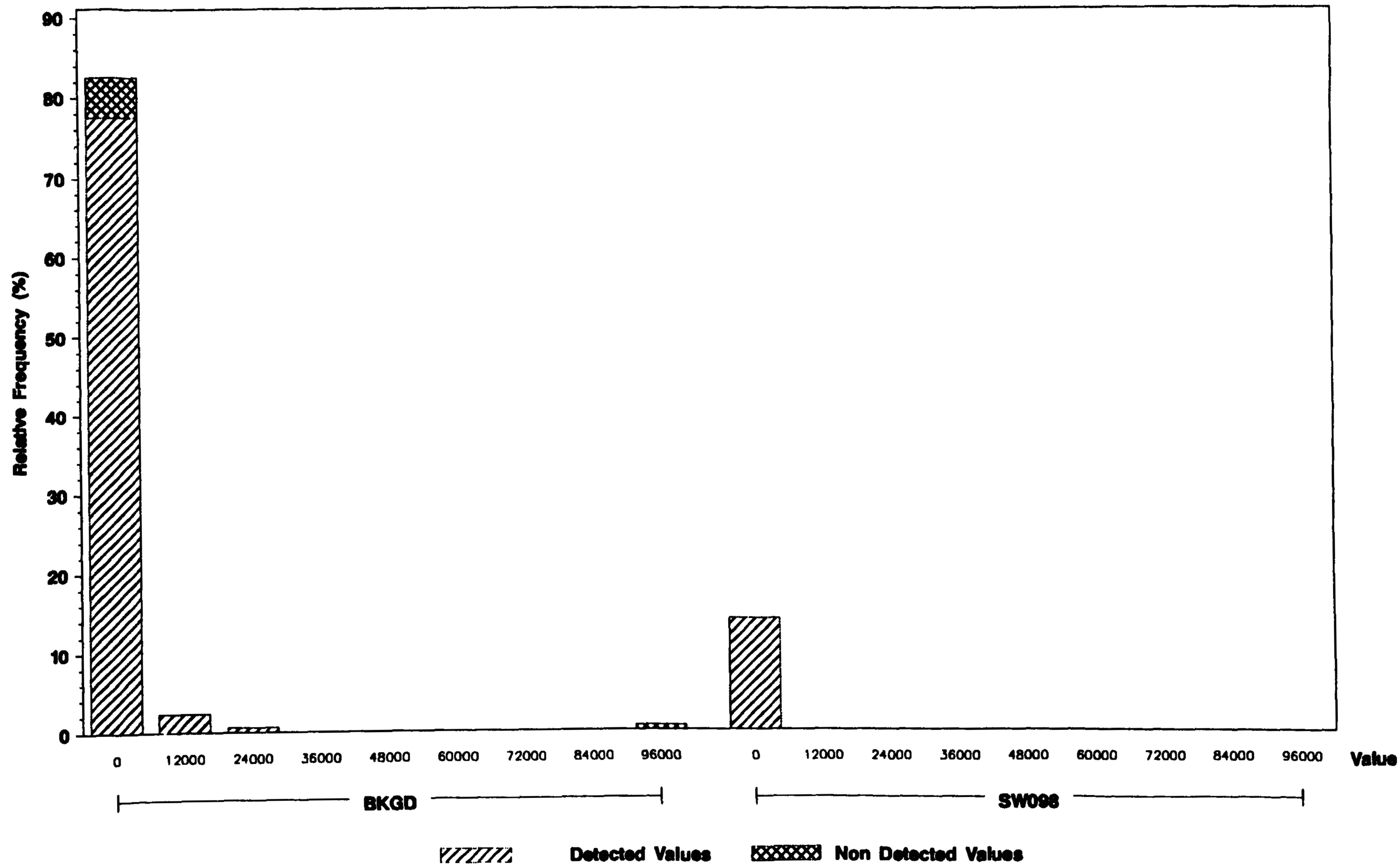
ANALYTE = FLUORIDE



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total IRON (ug/L) in Surface Water

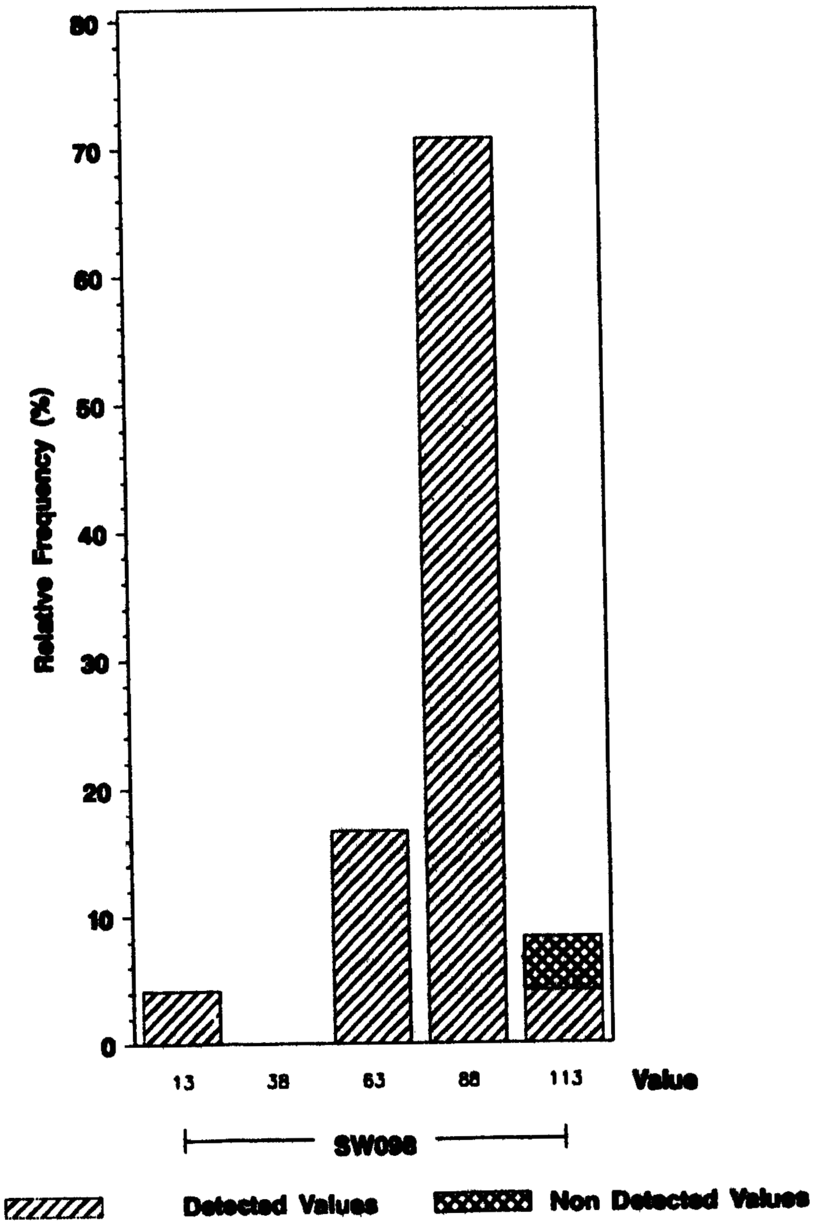
ANALYTE=IRON



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total LITHIUM (ug/L) in Surface Water

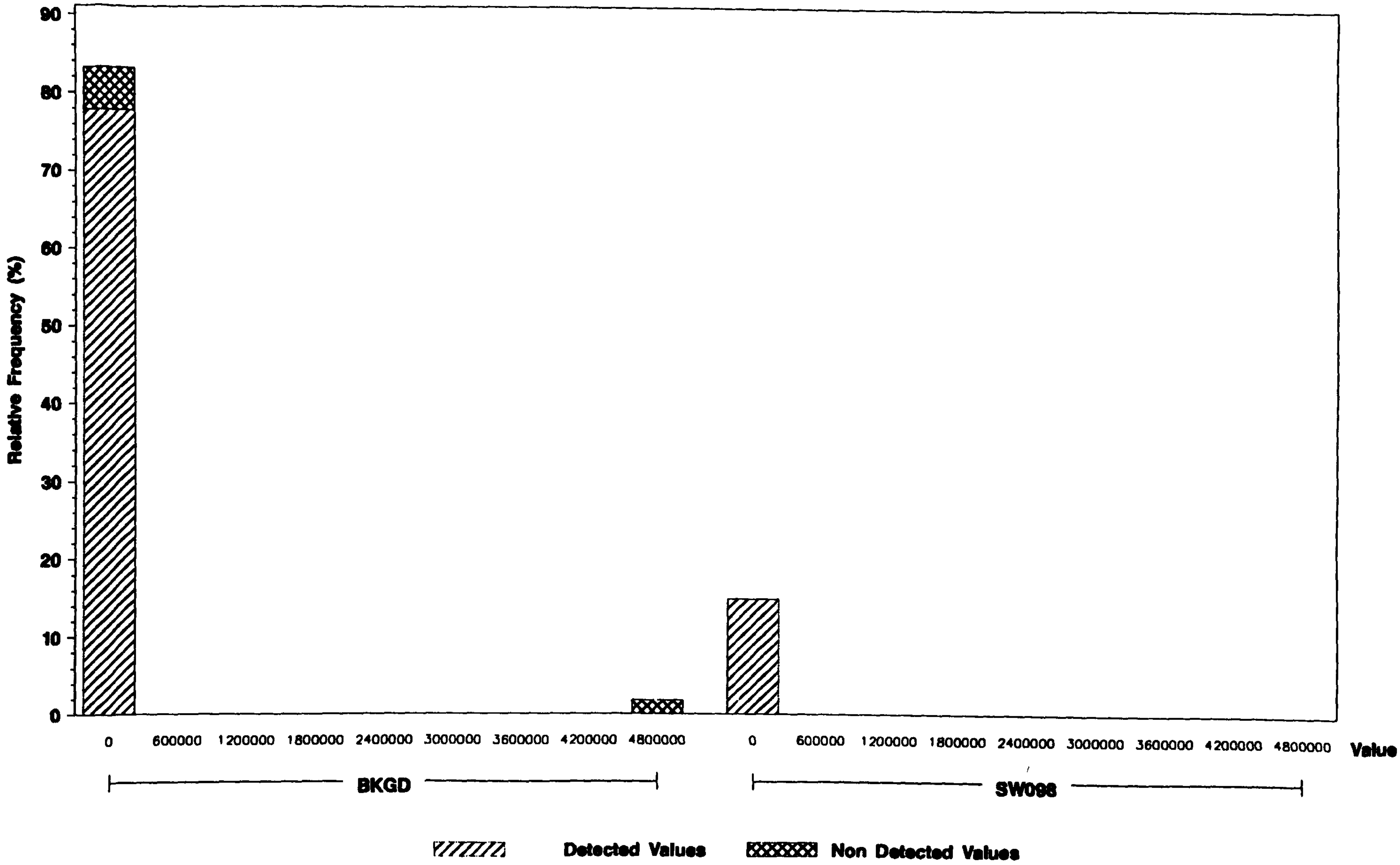
ANALYTE=LITHIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total MAGNESIUM (ug/L) in Surface Water

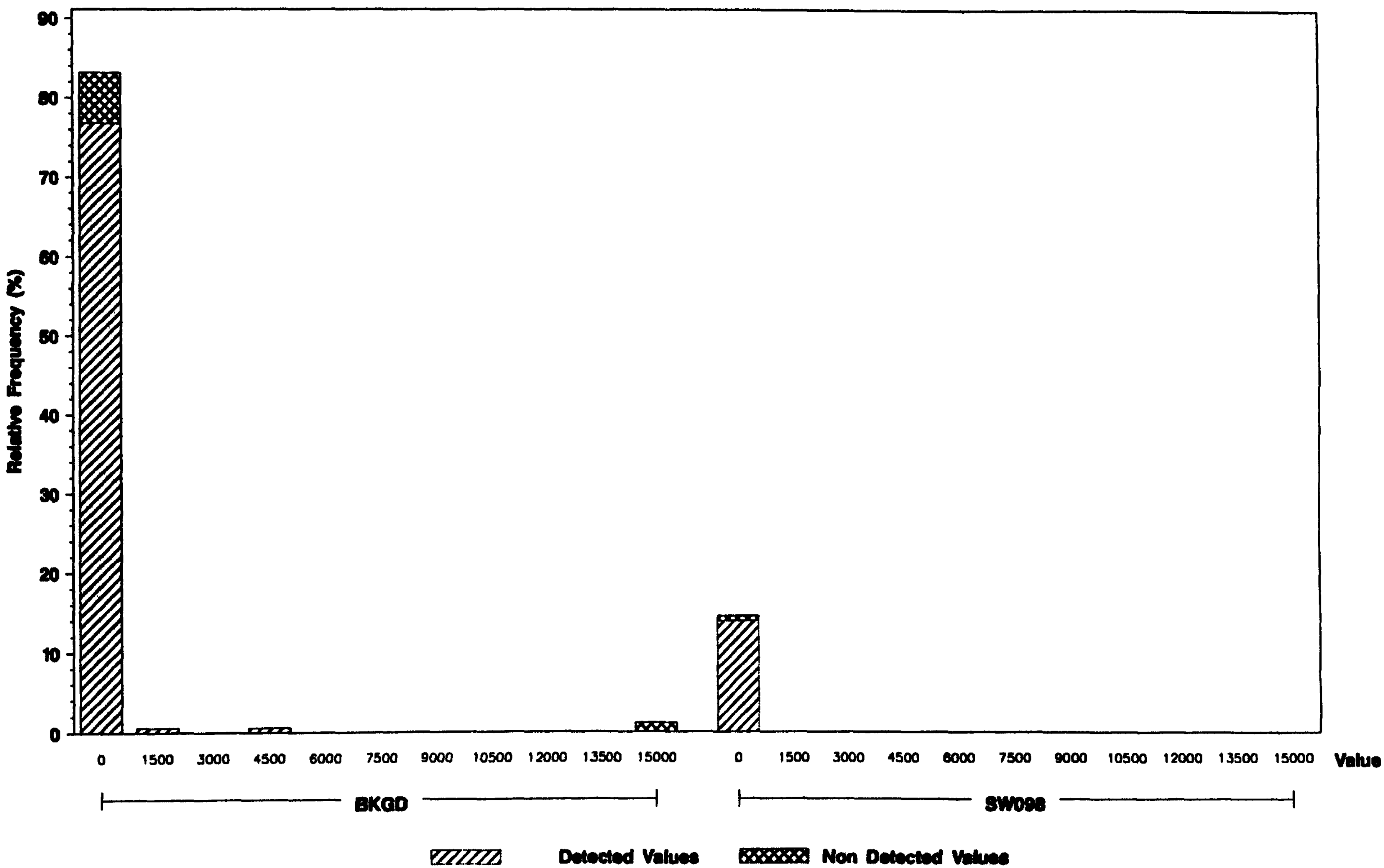
ANALYTE=MAGNESIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total MANGANESE (ug/L) in Surface Water

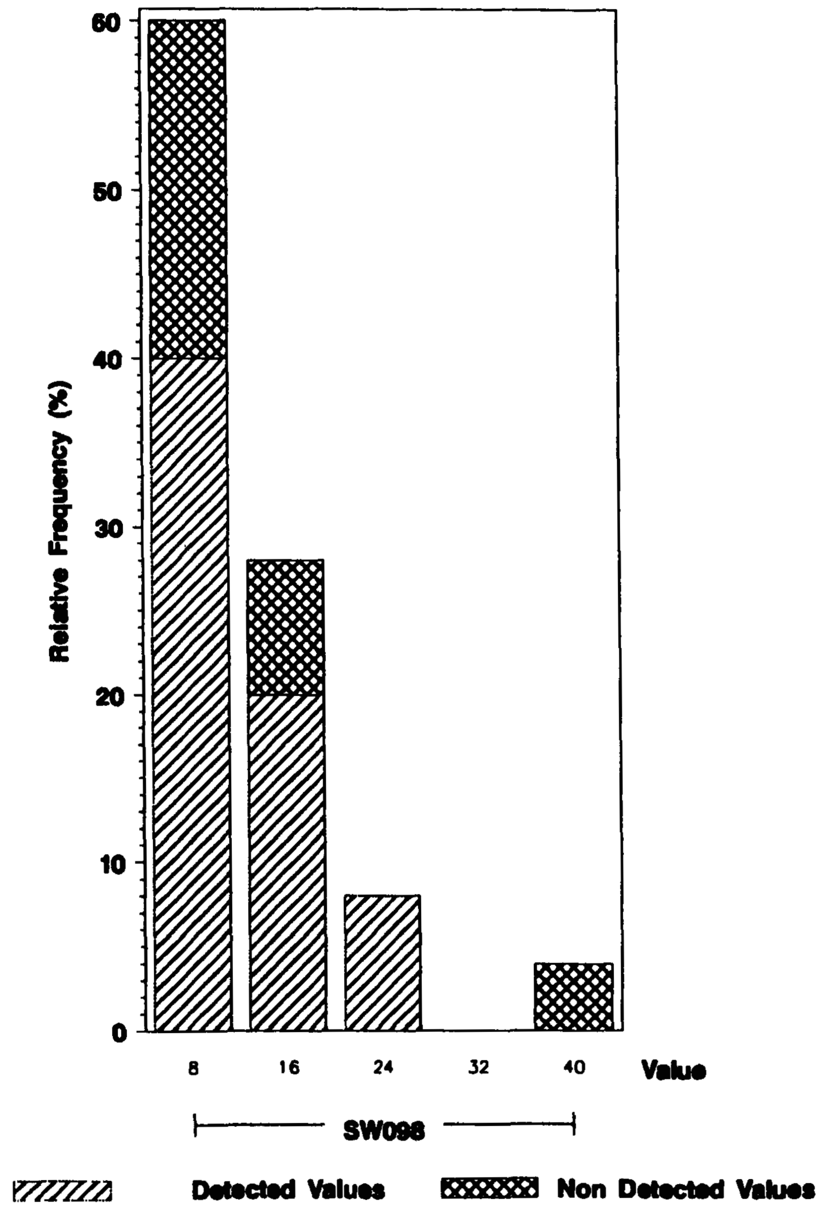
ANALYTE=MANGANESE



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total NICKEL (ug/L) in Surface Water

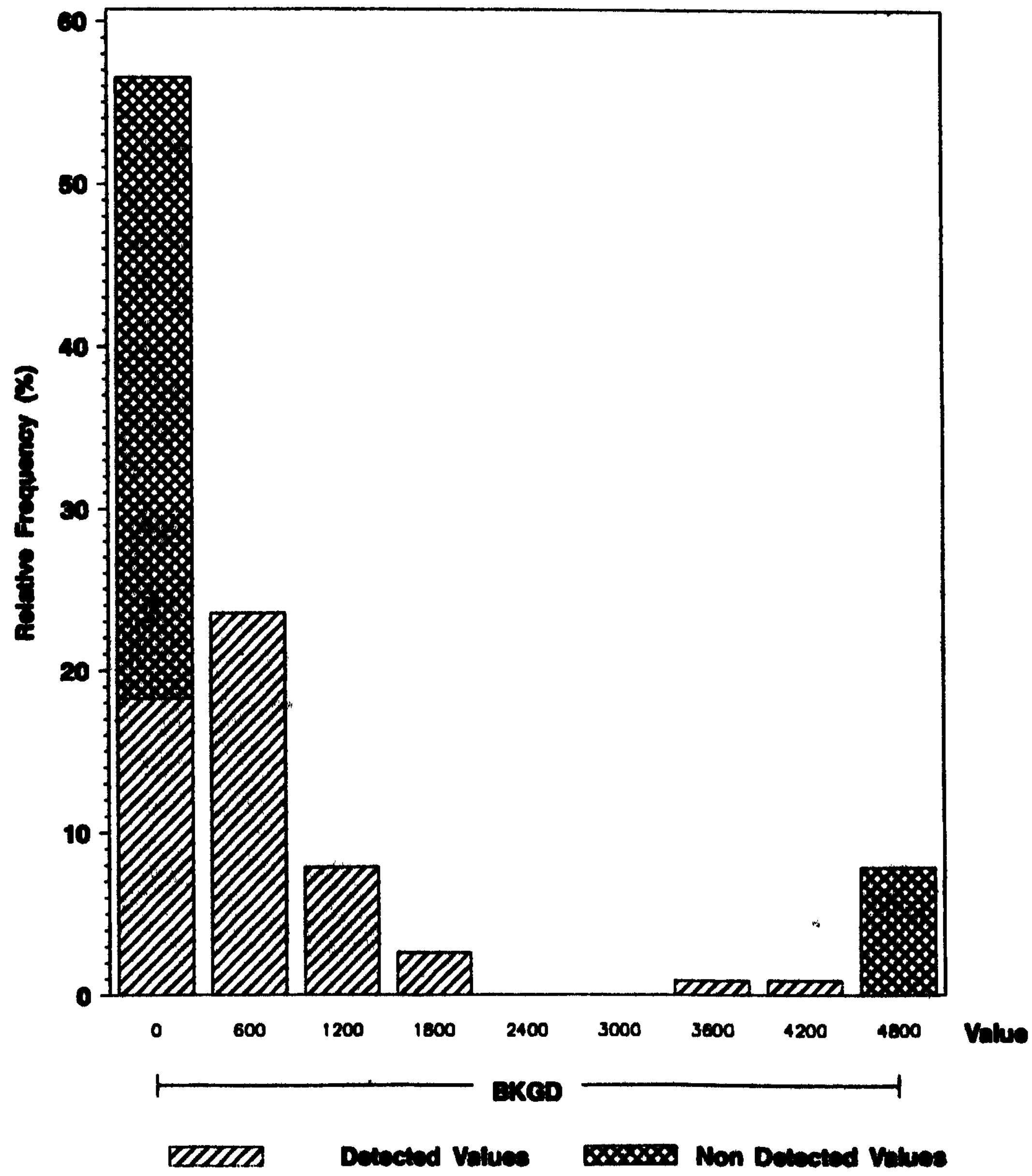
ANALYTE=NICKEL



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total NITRATE/NITRITE (ug/L) In Surface Water

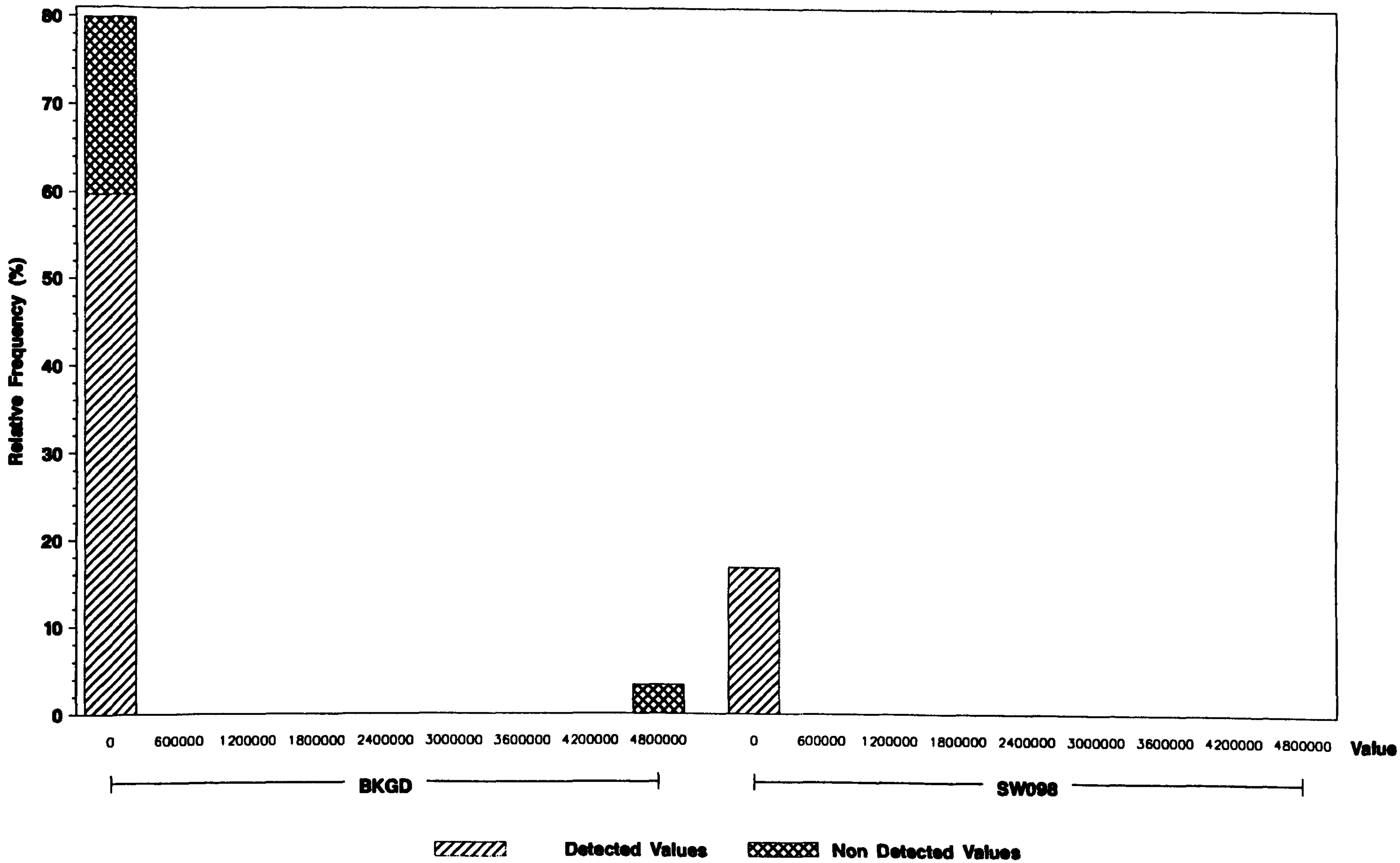
ANALYTE = NITRATE/NITRITE



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total POTASSIUM (ug/L) In Surface Water

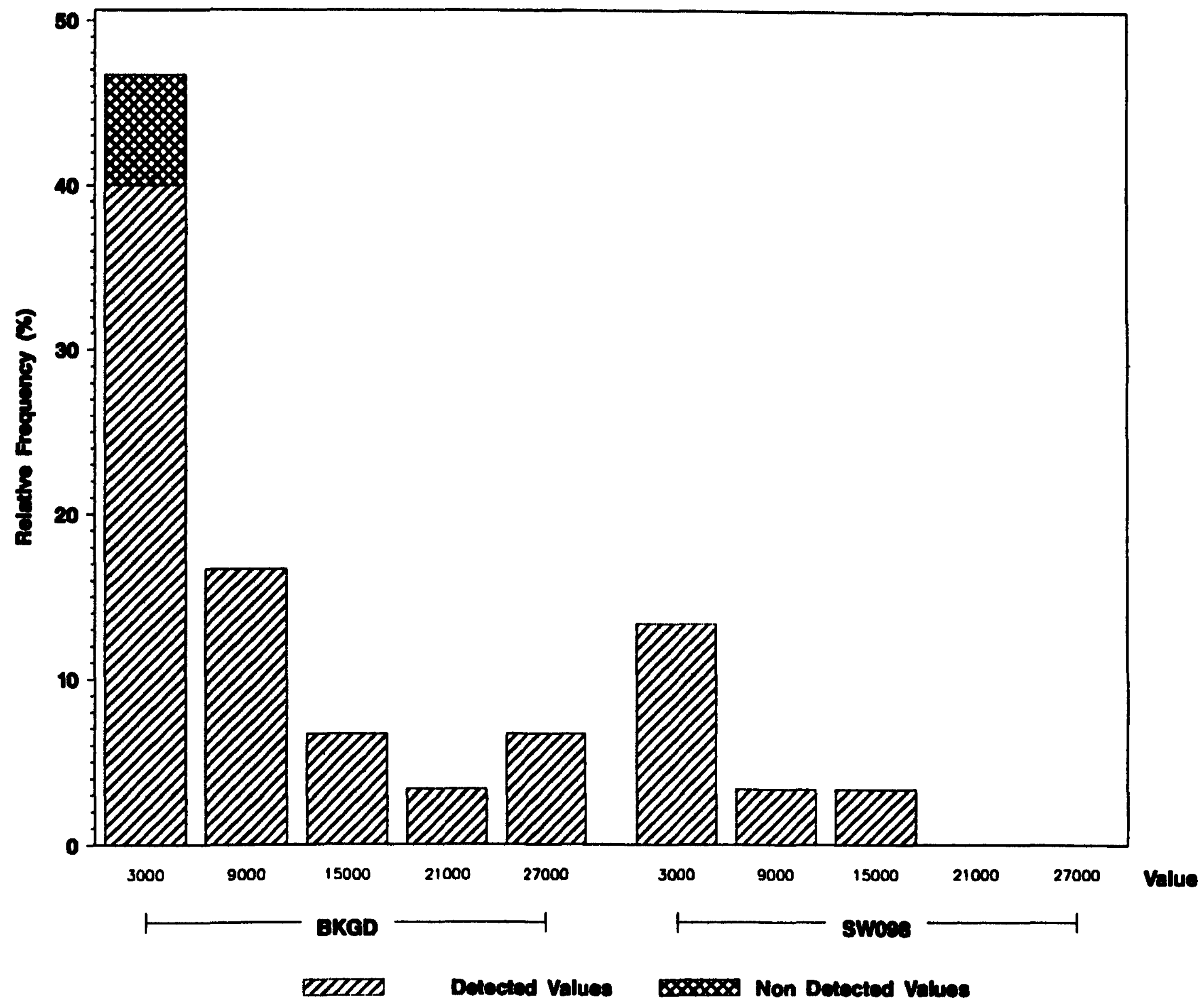
ANALYTE = POTASSIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total SILICA (ug/L) in Surface Water

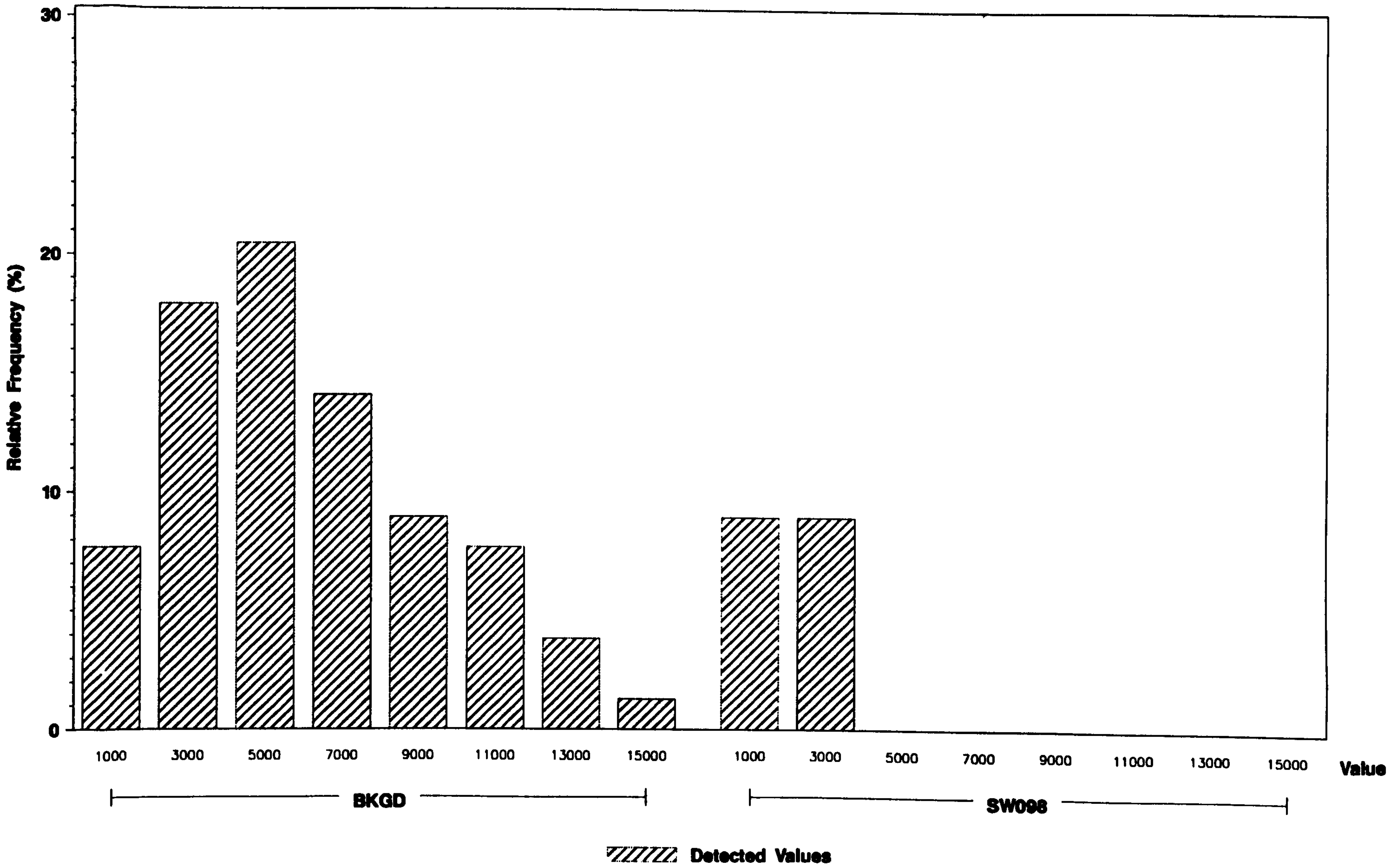
ANALYTE=SILICA



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total SILICON (ug/L) in Surface Water

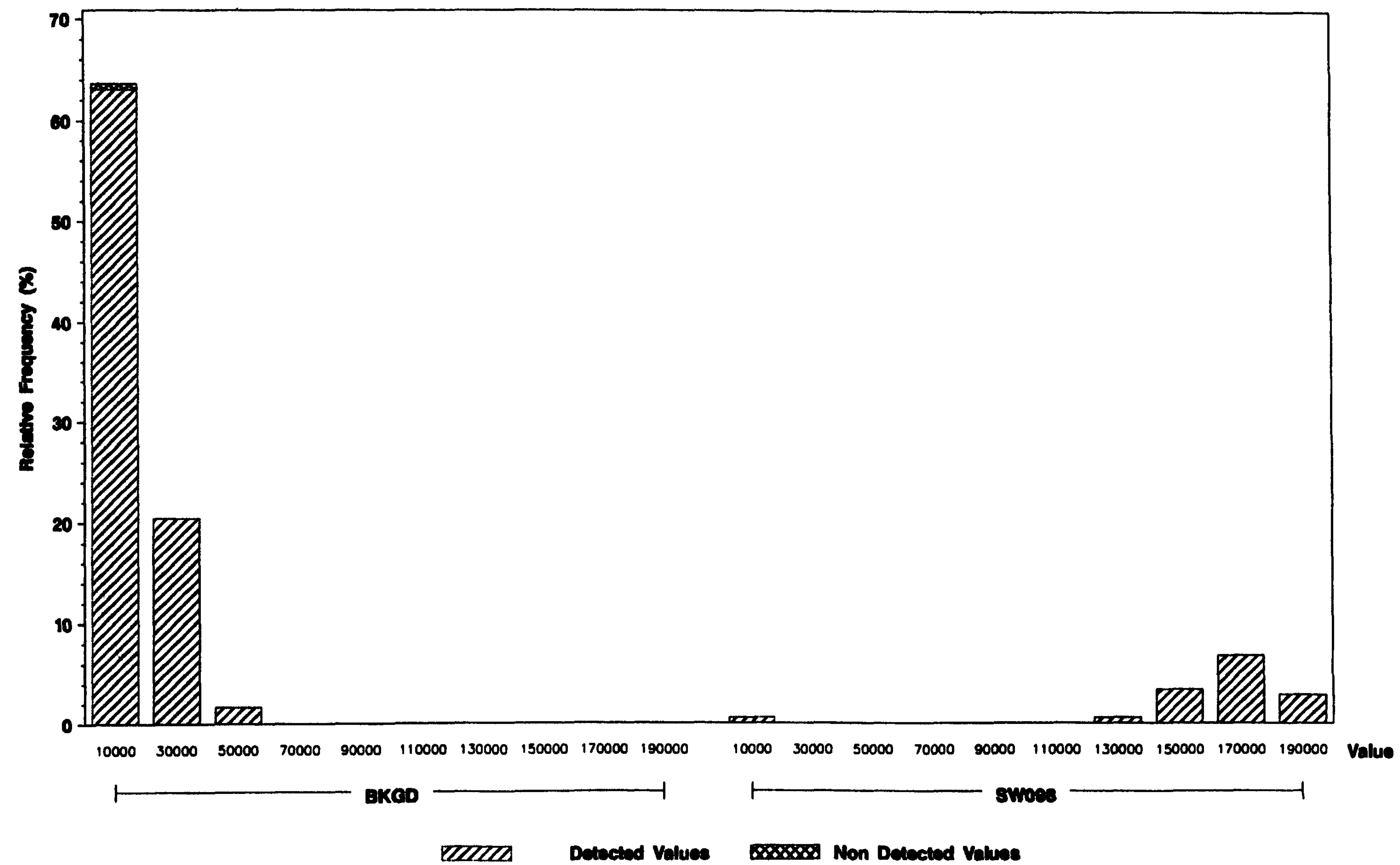
ANALYTE=SILICON



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total SODIUM (ug/L) in Surface Water

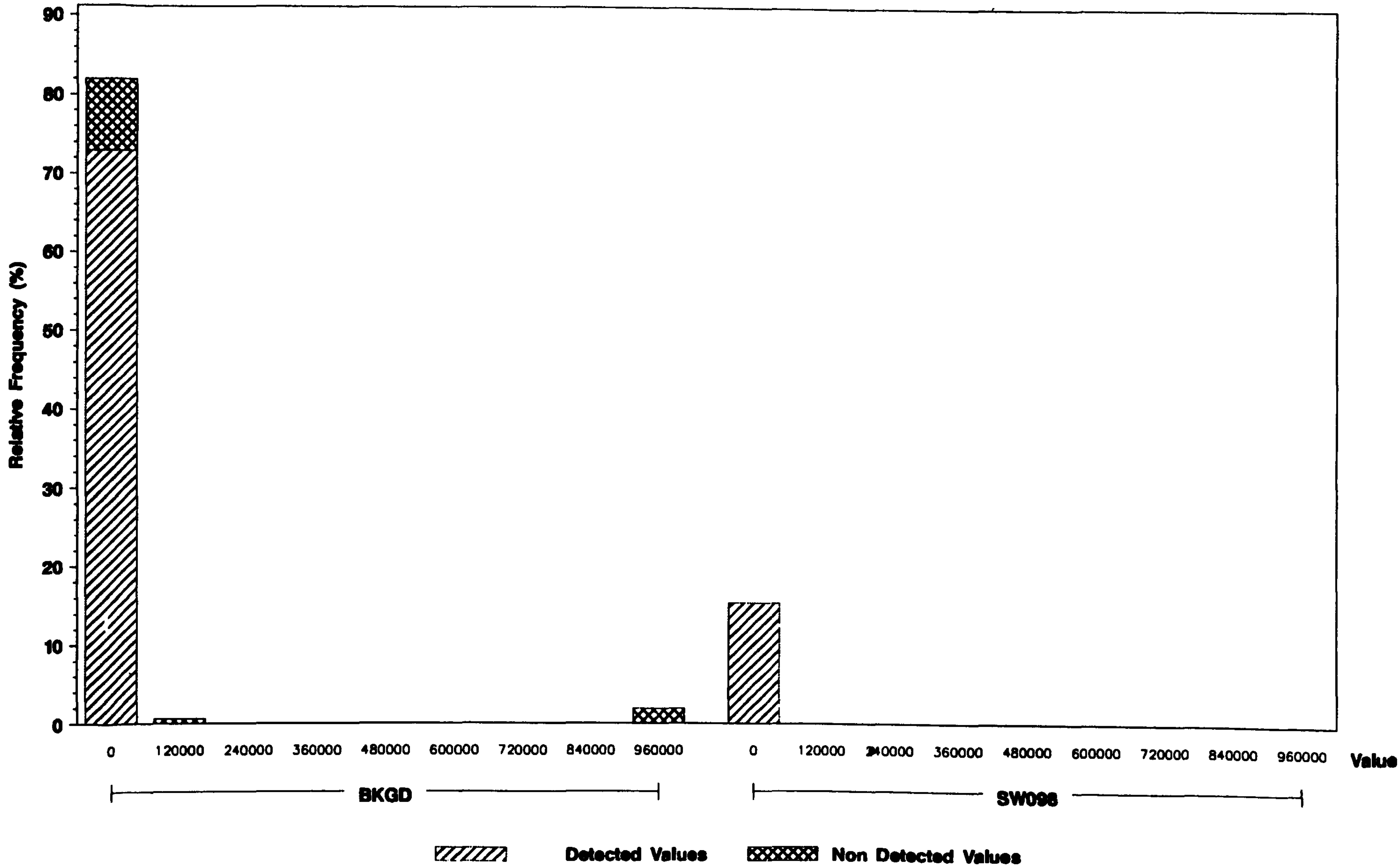
ANALYTE=SODIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total STRONTIUM (ug/L) in Surface Water

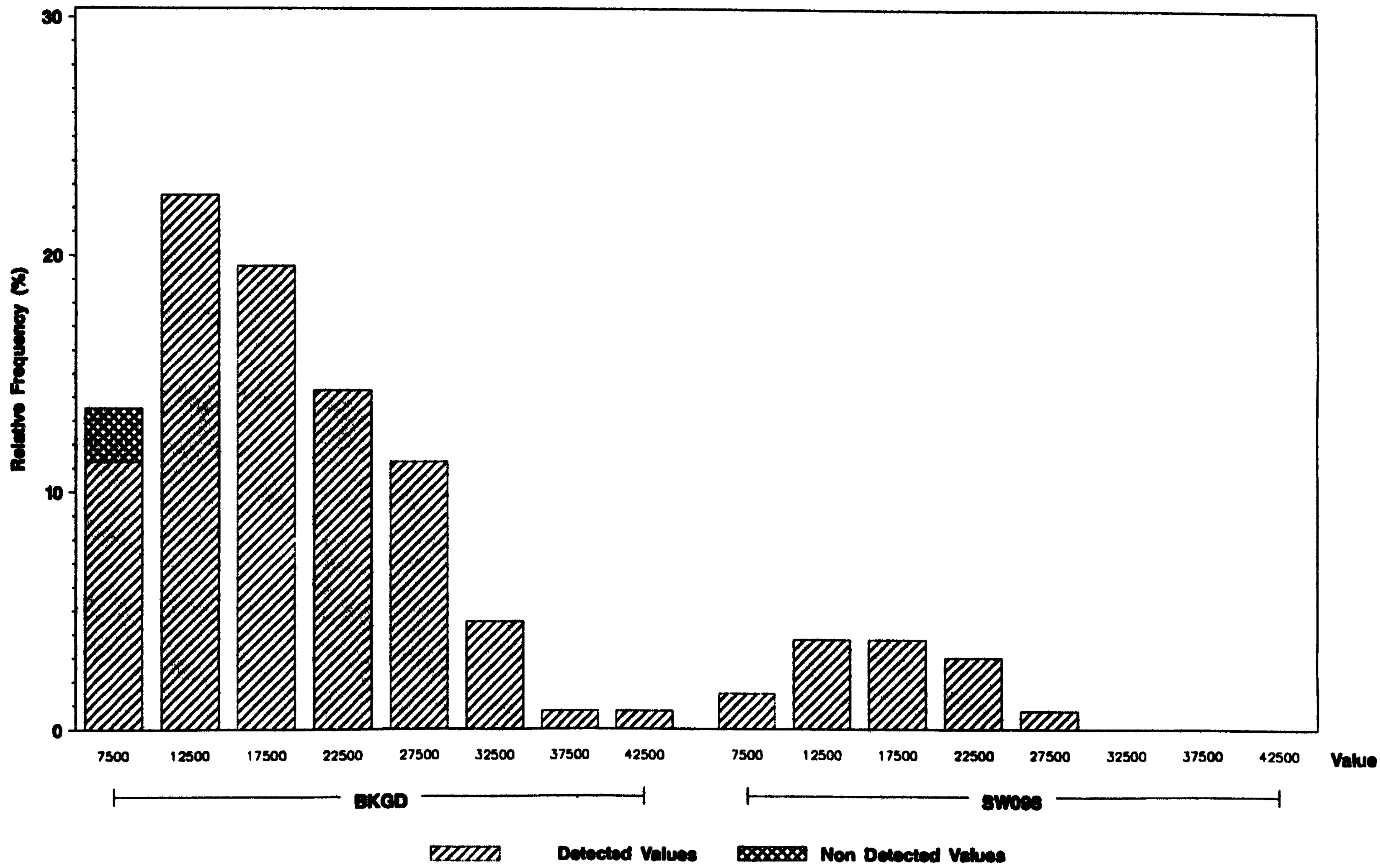
ANALYTE = STRONTIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total SULFATE (ug/L) in Surface Water

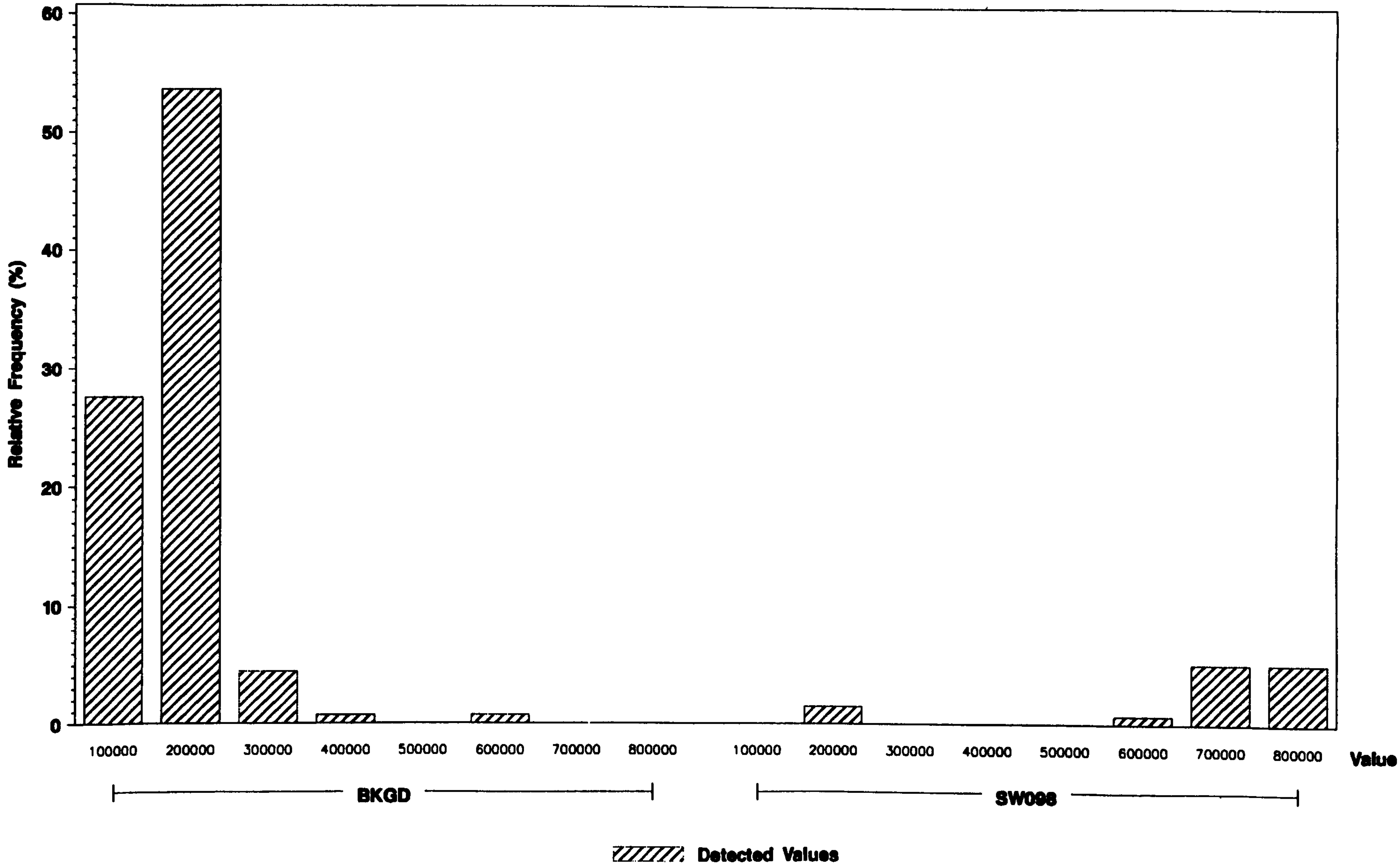
ANALYTE = SULFATE



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total TOTAL DISSOLVED SOLIDS (ug/L) in Surface Water

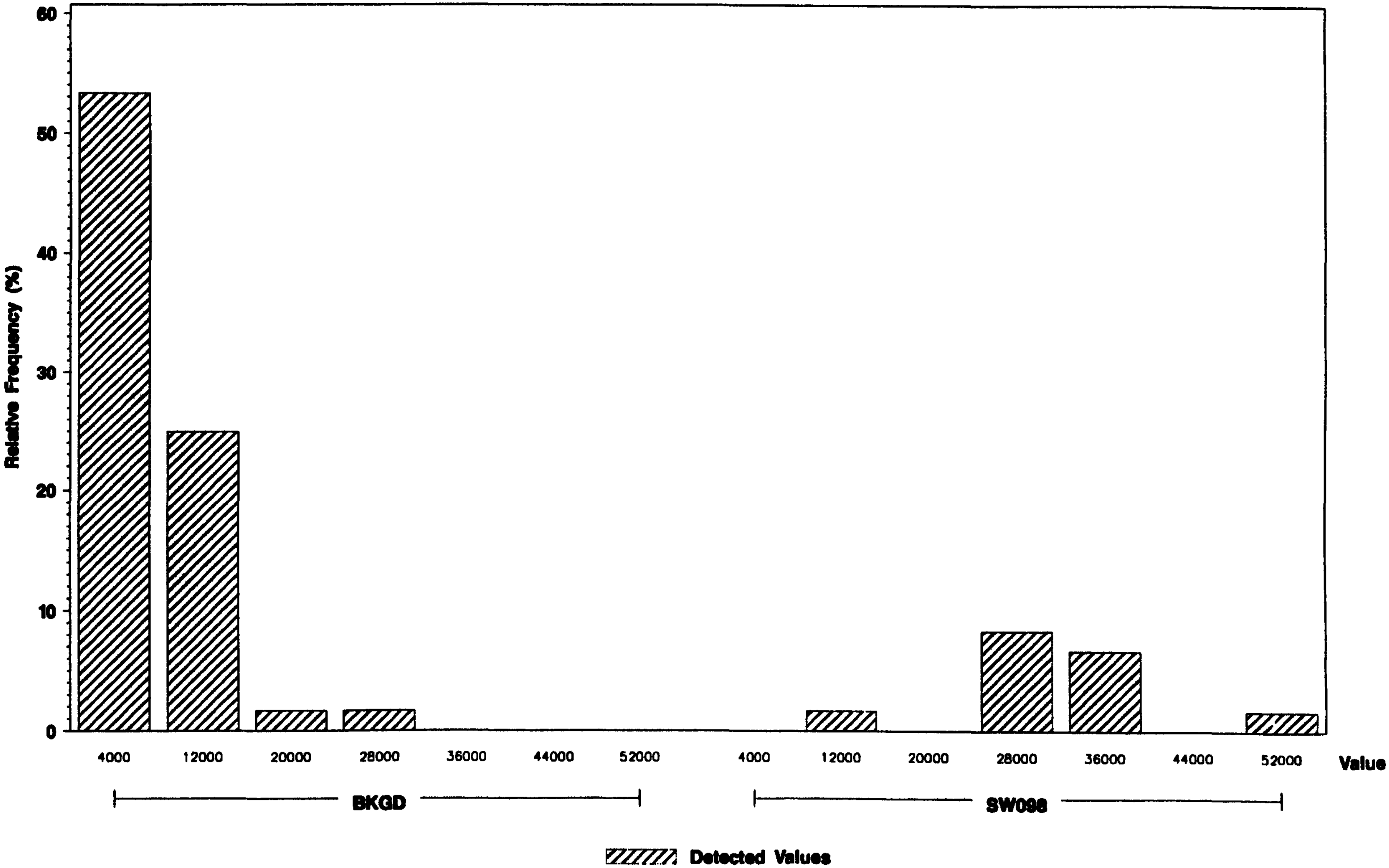
ANALYTE=TOTAL DISSOLVED SOLIDS



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total TOTAL ORGANIC CARBON (ug/L) In Surface Water

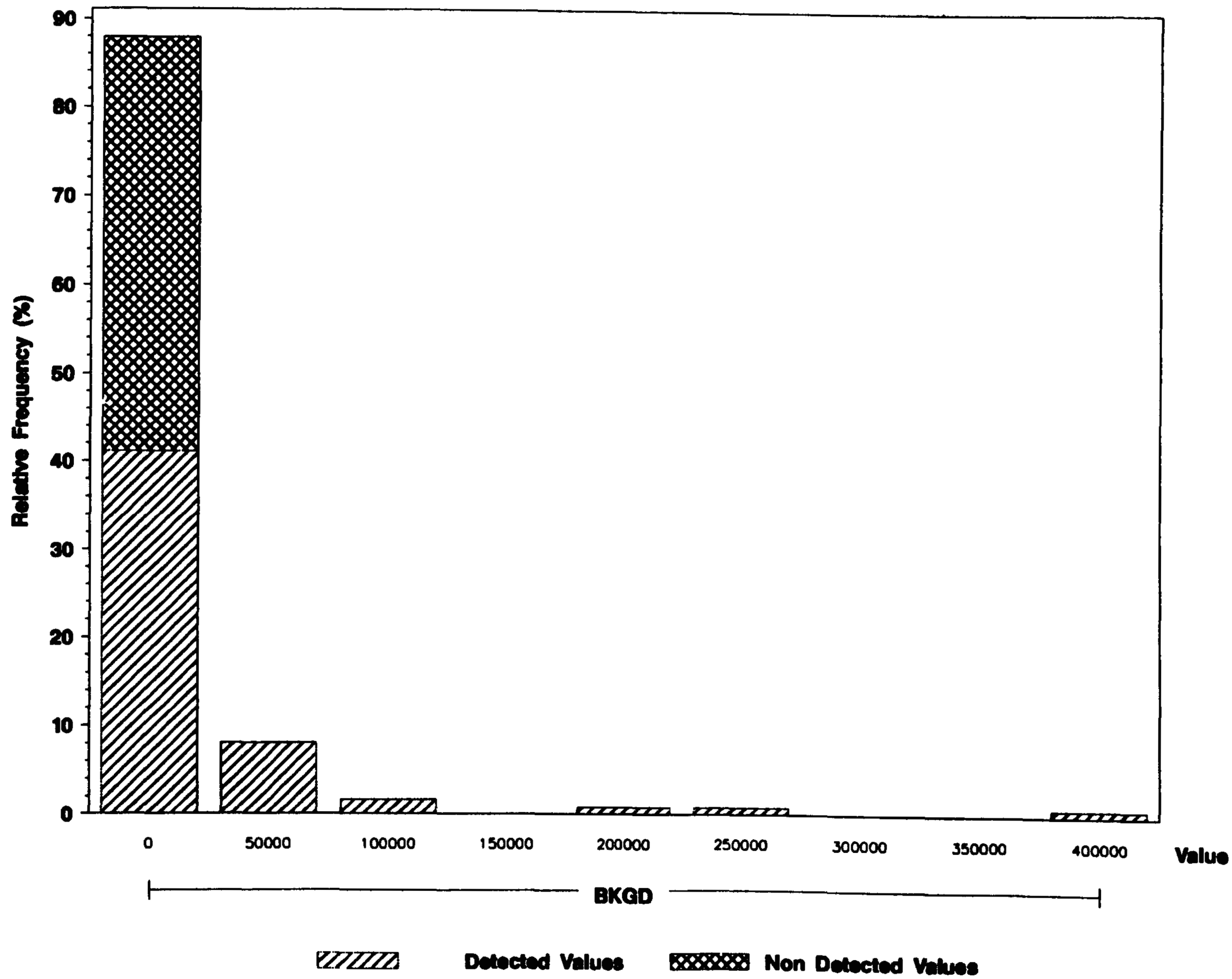
ANALYTE = TOTAL ORGANIC CARBON



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total TOTAL SUSPENDED SOLIDS (ug/L) in Surface Water

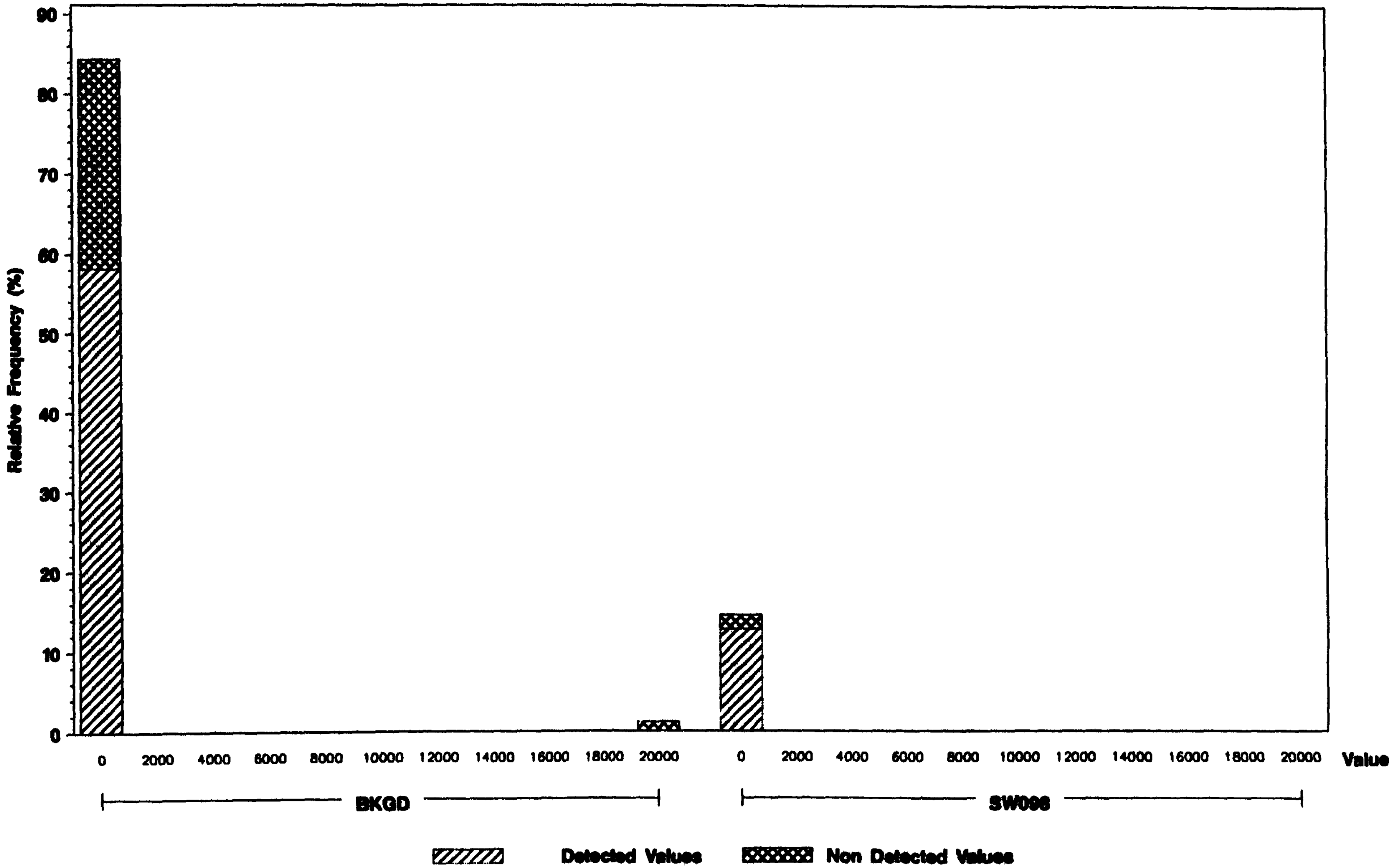
ANALYTE=TOTAL SUSPENDED SOLIDS



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total ZINC (ug/L) In Surface Water

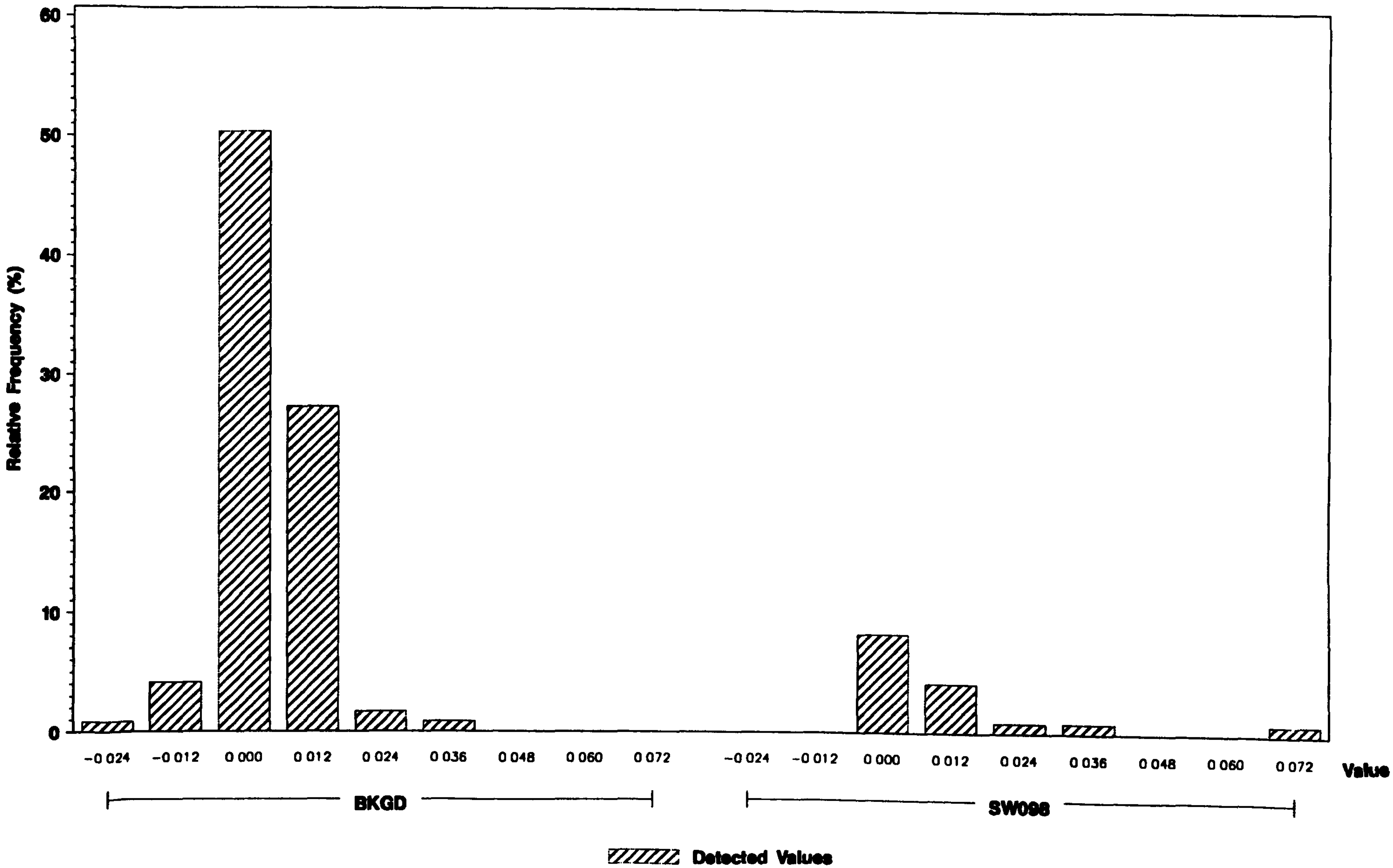
ANALYTE=ZINC



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total AMERICIUM − 241 (pCi/L) in Surface Water

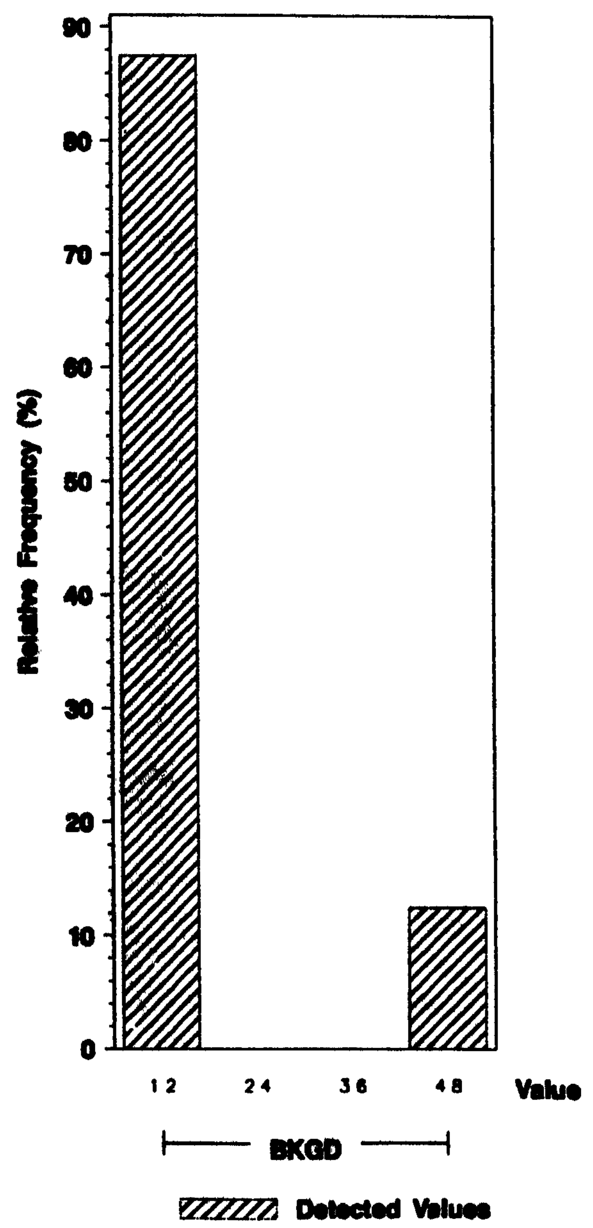
ANALYTE = AMERICIUM − 241



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total CESIUM−134 (pCi/L) In Surface Water

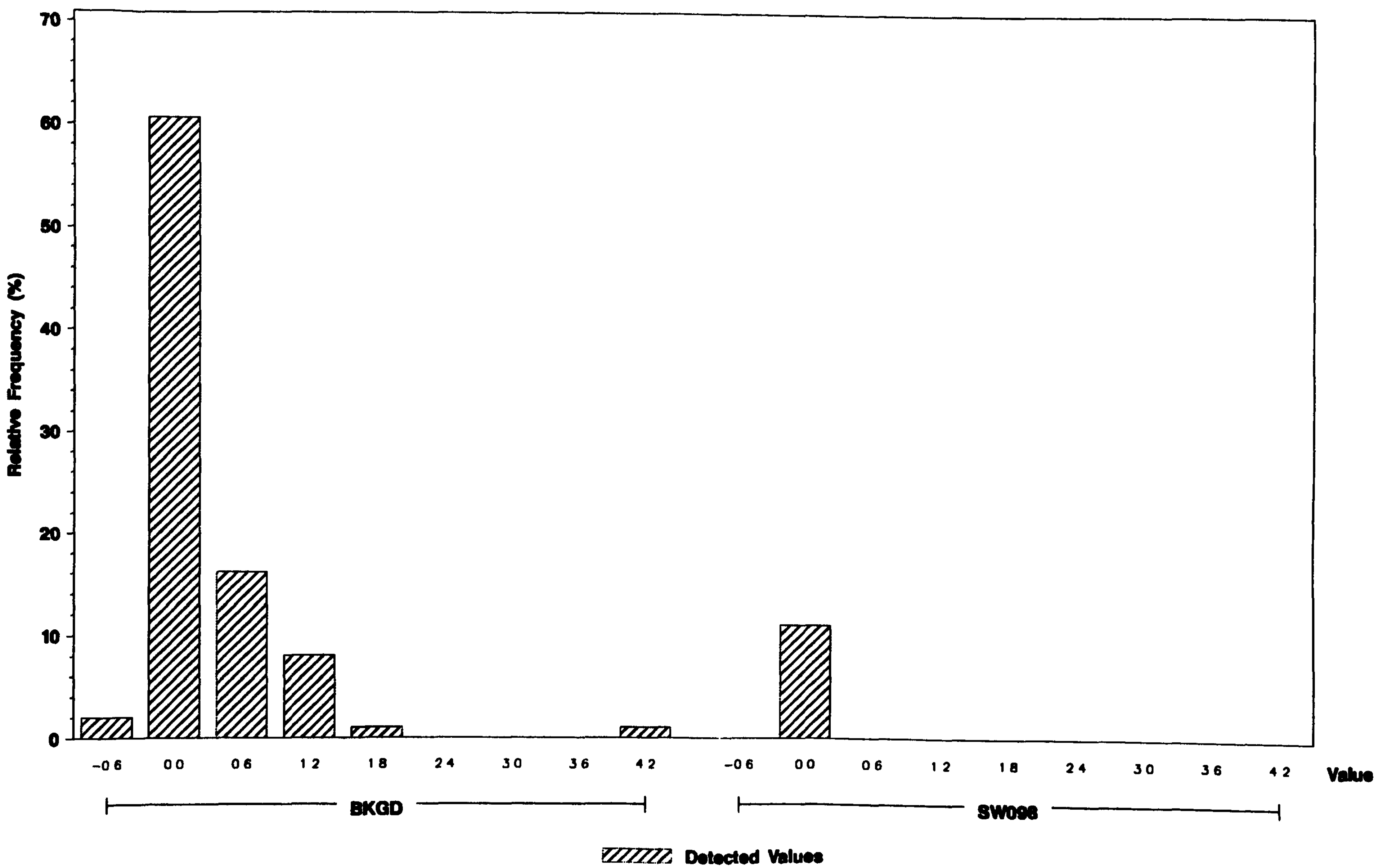
ANALYTE = CESIUM − 134



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total CESIUM-137 (pCi/L) in Surface Water

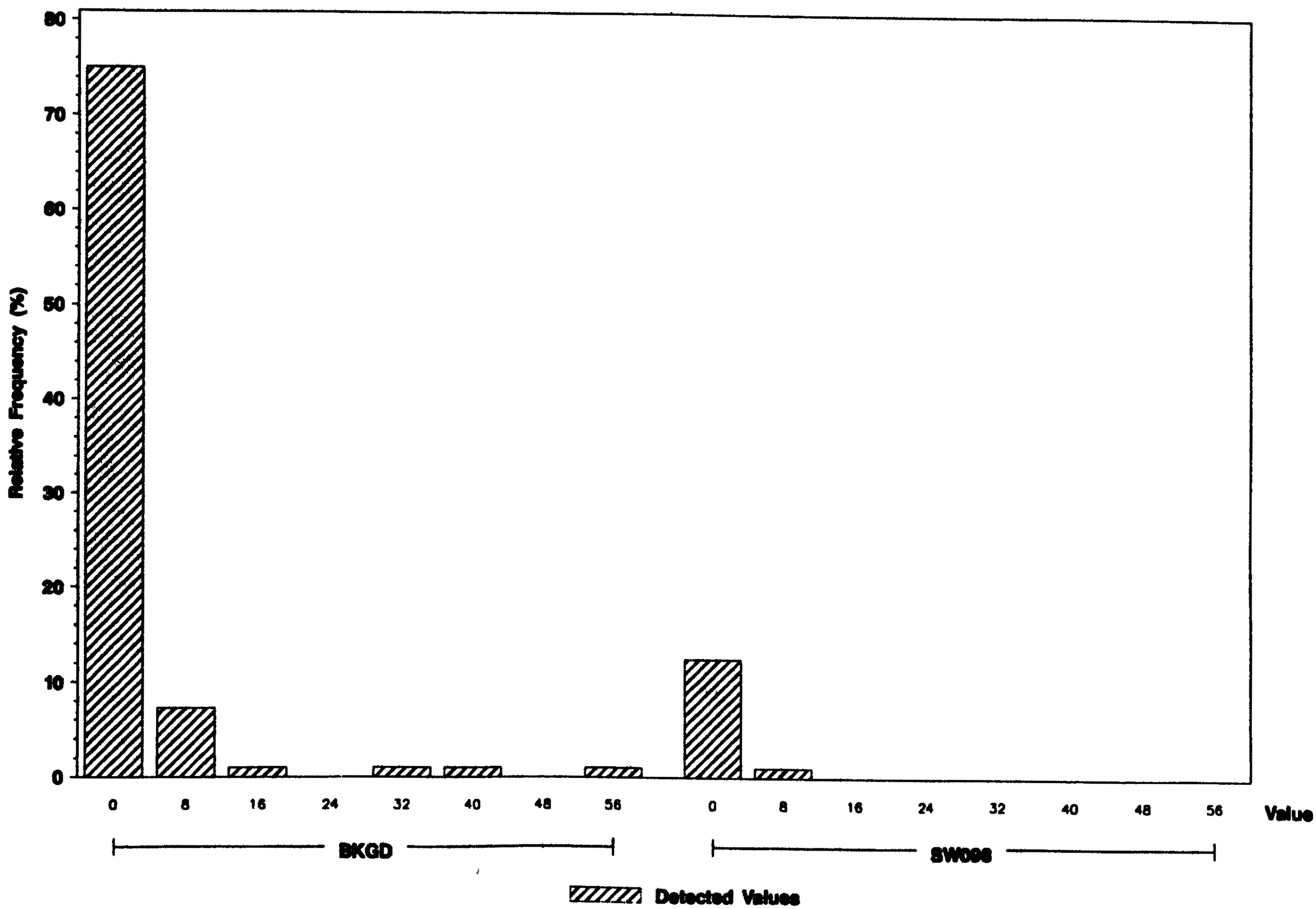
ANALYTE = CESIUM - 137



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total GROSS ALPHA (pCi/L) in Surface Water

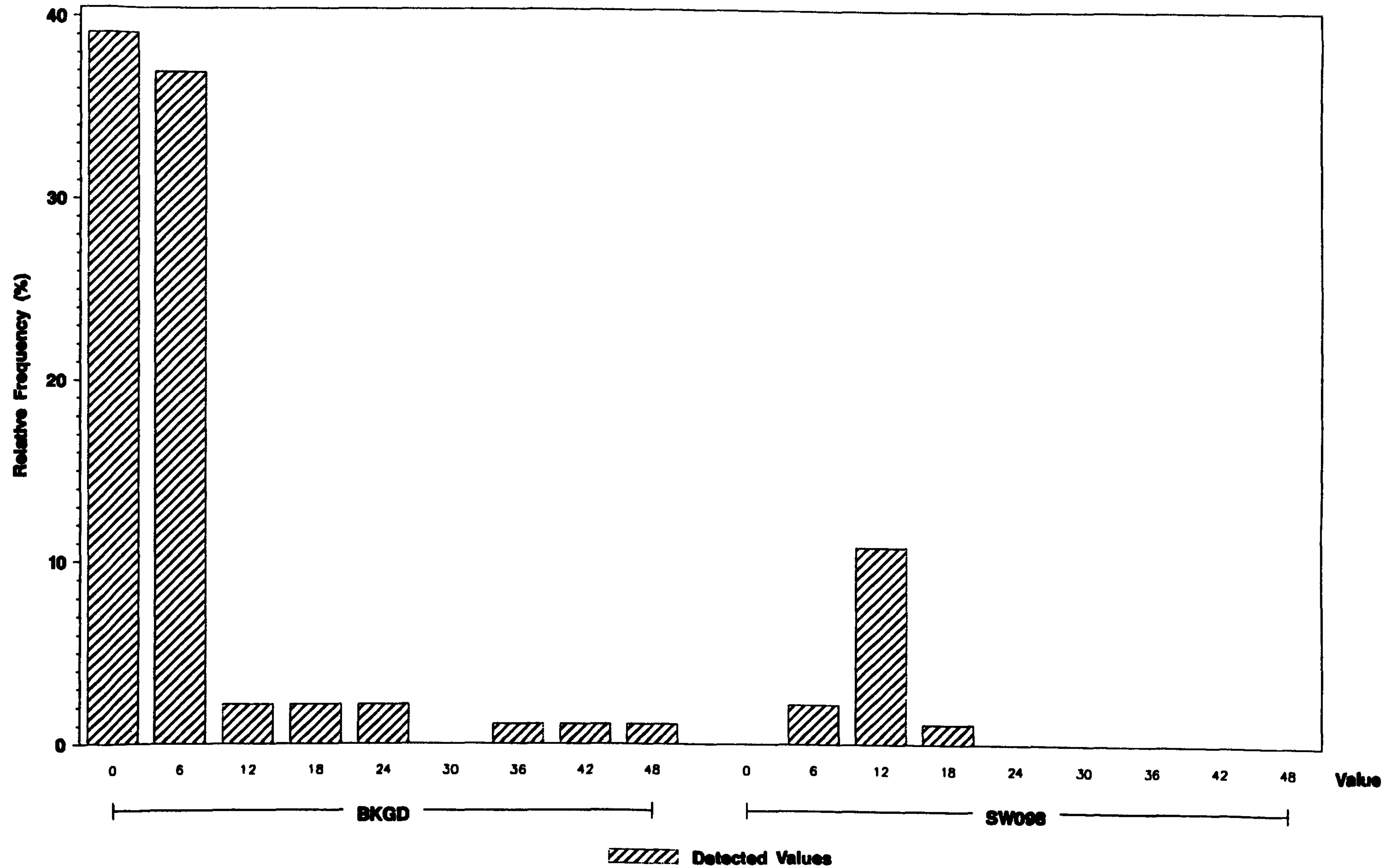
ANALYTE=GROSS ALPHA



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total GROSS BETA (pCi/L) in Surface Water

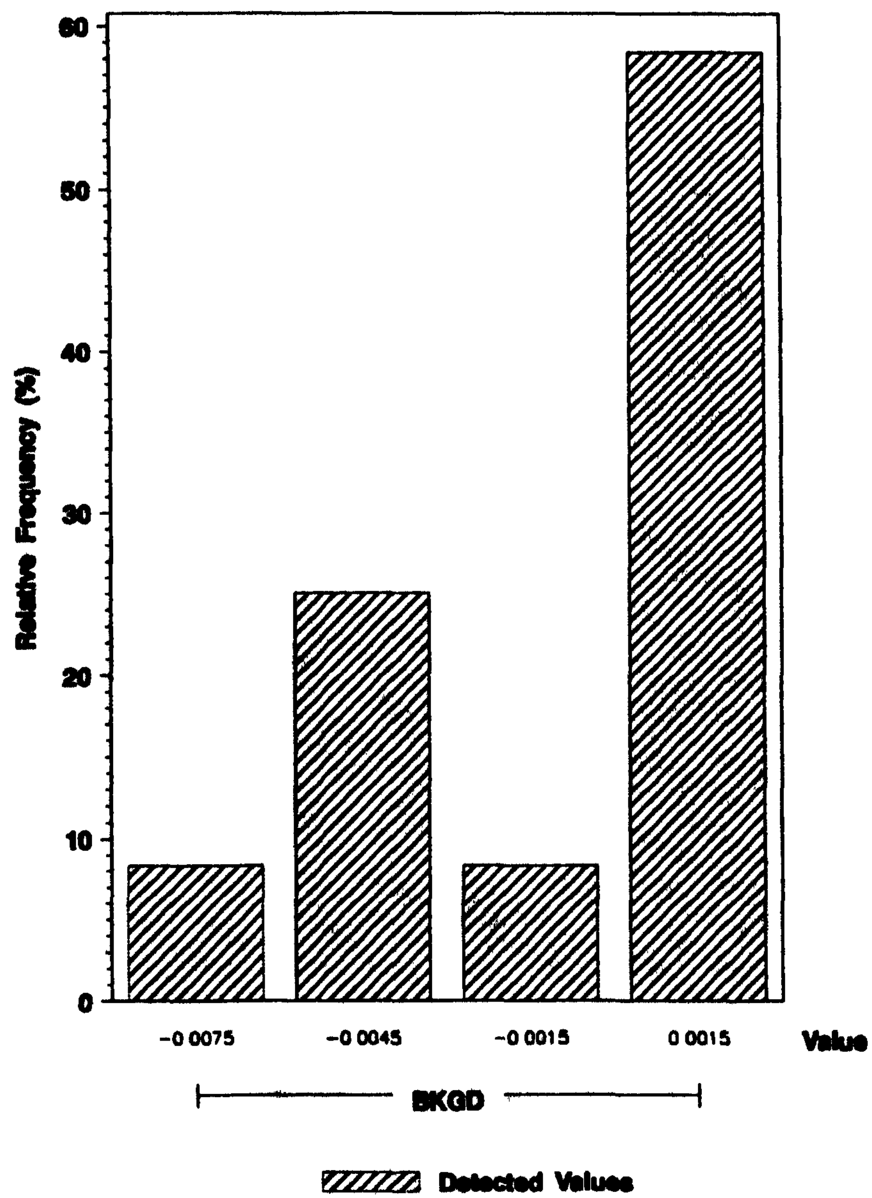
ANALYTE=GROSS BETA



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total PLUTONIUM – 236 (pCi/L) in Surface Water

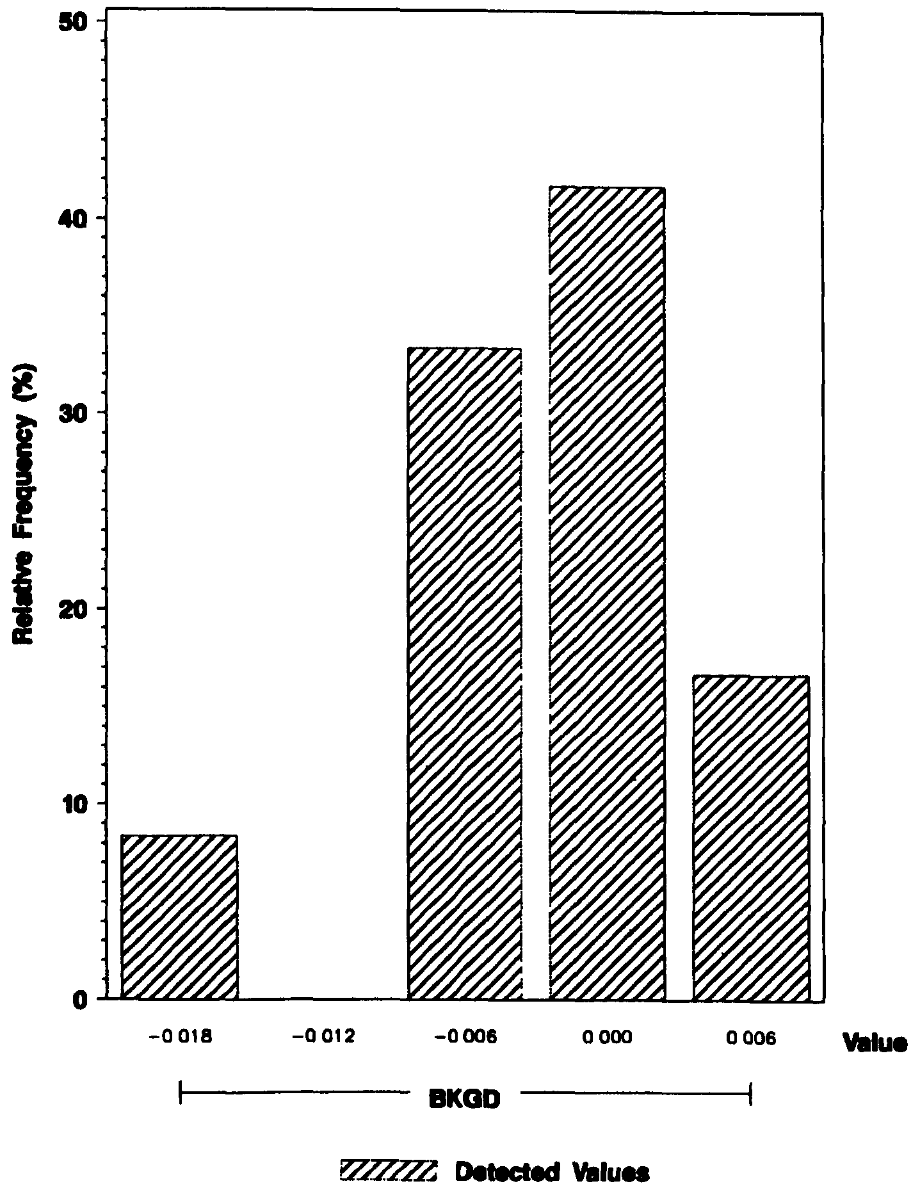
ANALYTE = PLUTONIUM – 236



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total PLUTONIUM - 238 (pCi/L) in Surface Water

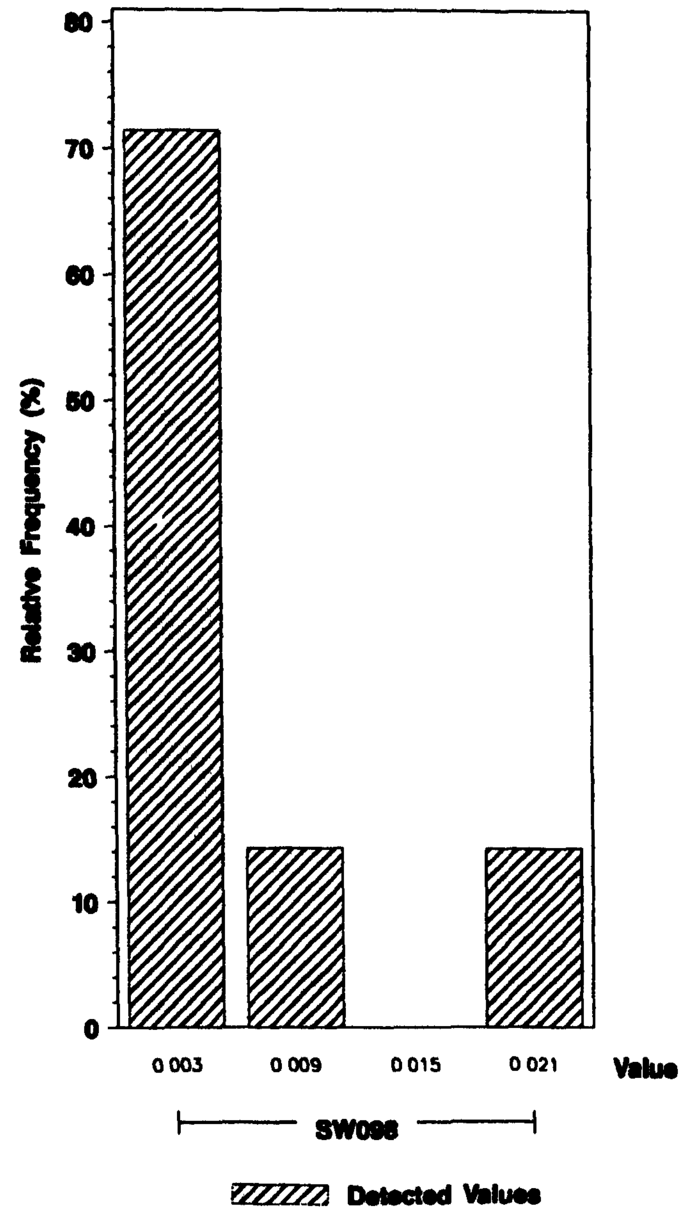
ANALYTE = PLUTONIUM - 238



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total PLUTONIUM-239 (pCi/L) in Surface Water

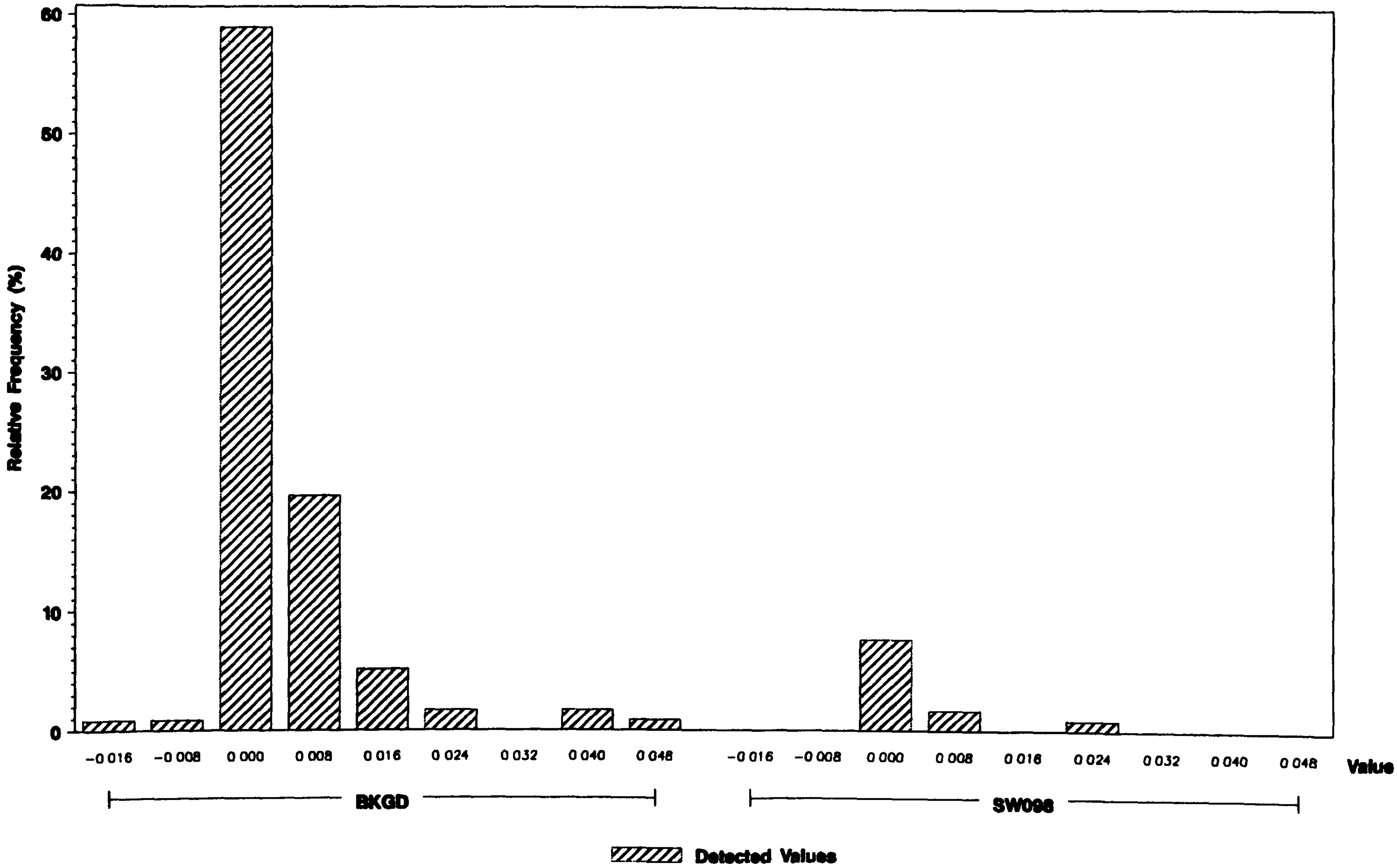
ANALYTE = PLUTONIUM-239



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total PLUTONIUM – 239/240 (pCi/L) in Surface Water

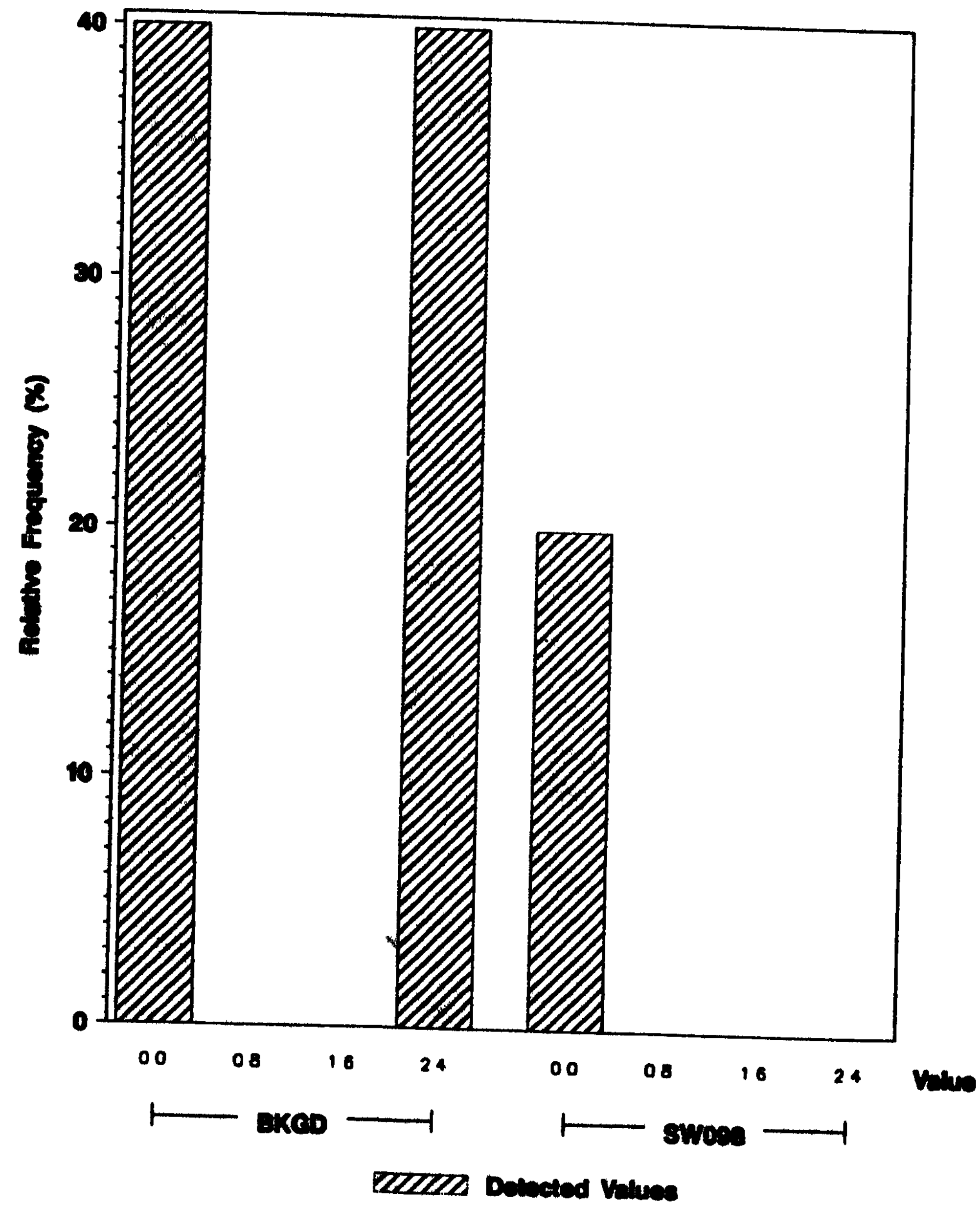
ANALYTE = PLUTONIUM – 239/240



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total RADIUM – 226 (pCi/L) in Surface Water

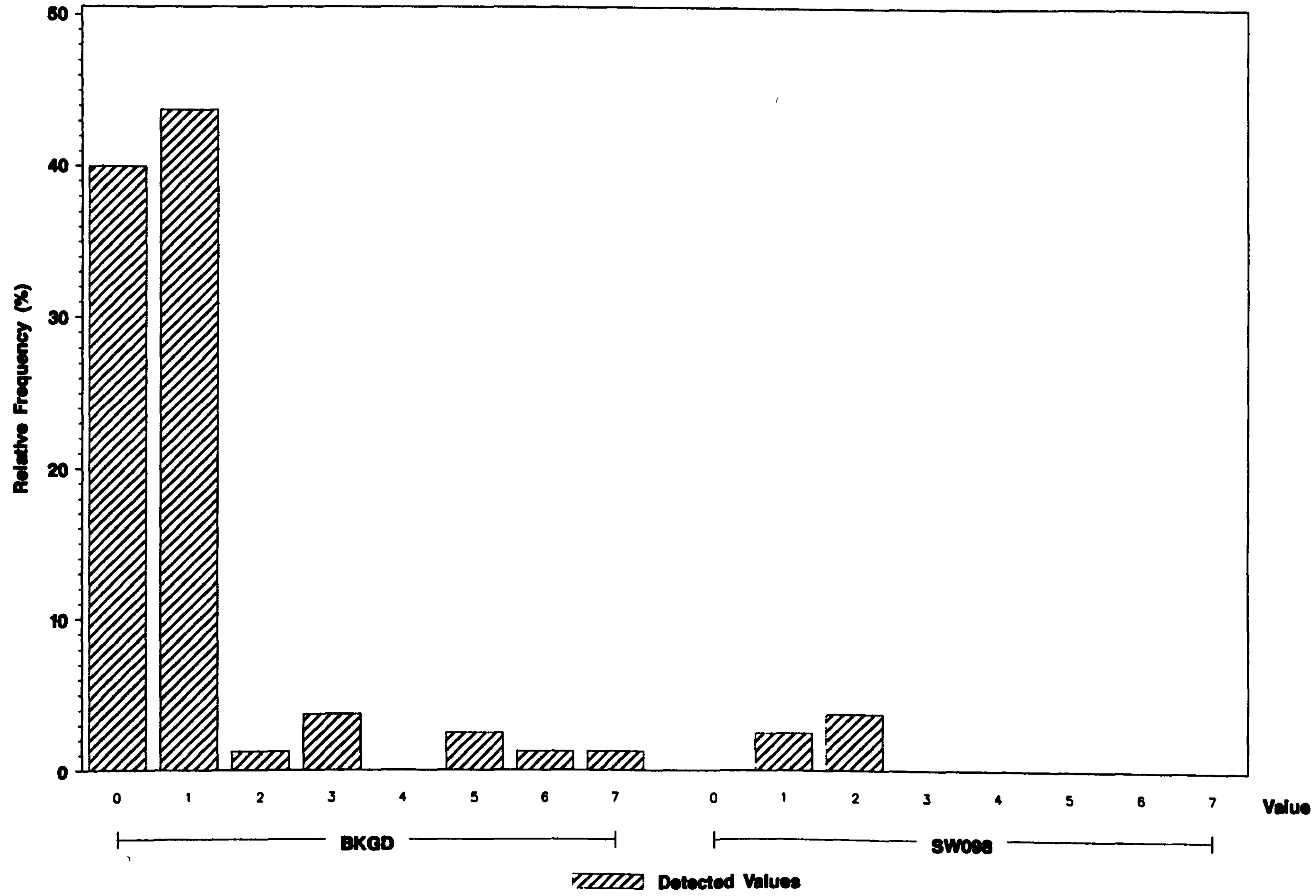
ANALYTE = RADIUM – 226



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total STRONTIUM-89,90 (pCi/L) in Surface Water

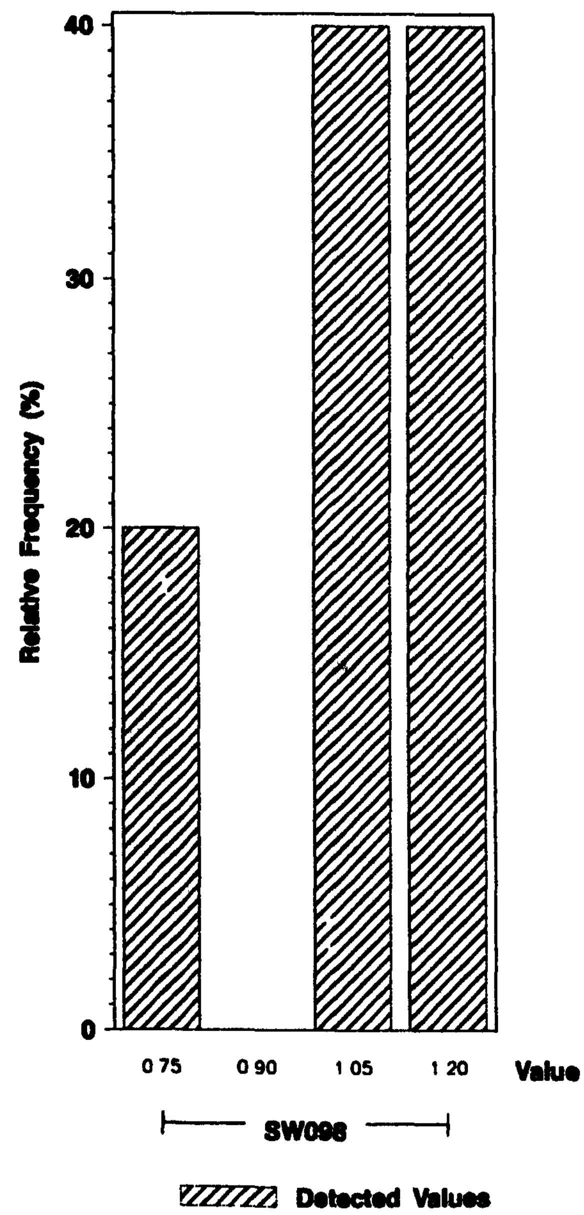
ANALYTE=STRONTIUM-89,90



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total STRONTIUM-90 (pCi/L) In Surface Water

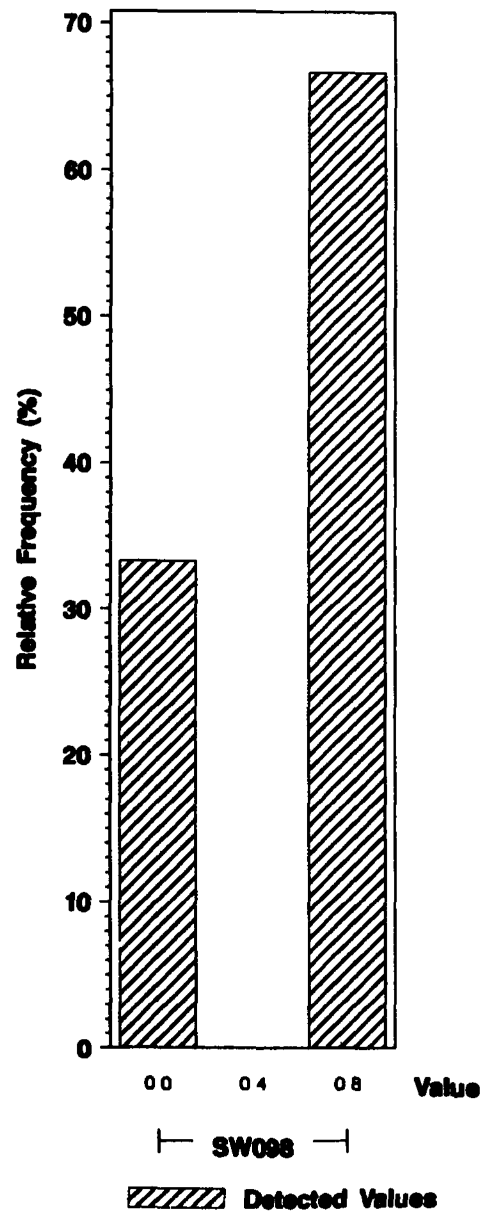
ANALYTE=STRONTIUM-90



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total TOTAL RADIOCESIUM (pCI/L) In Surface Water

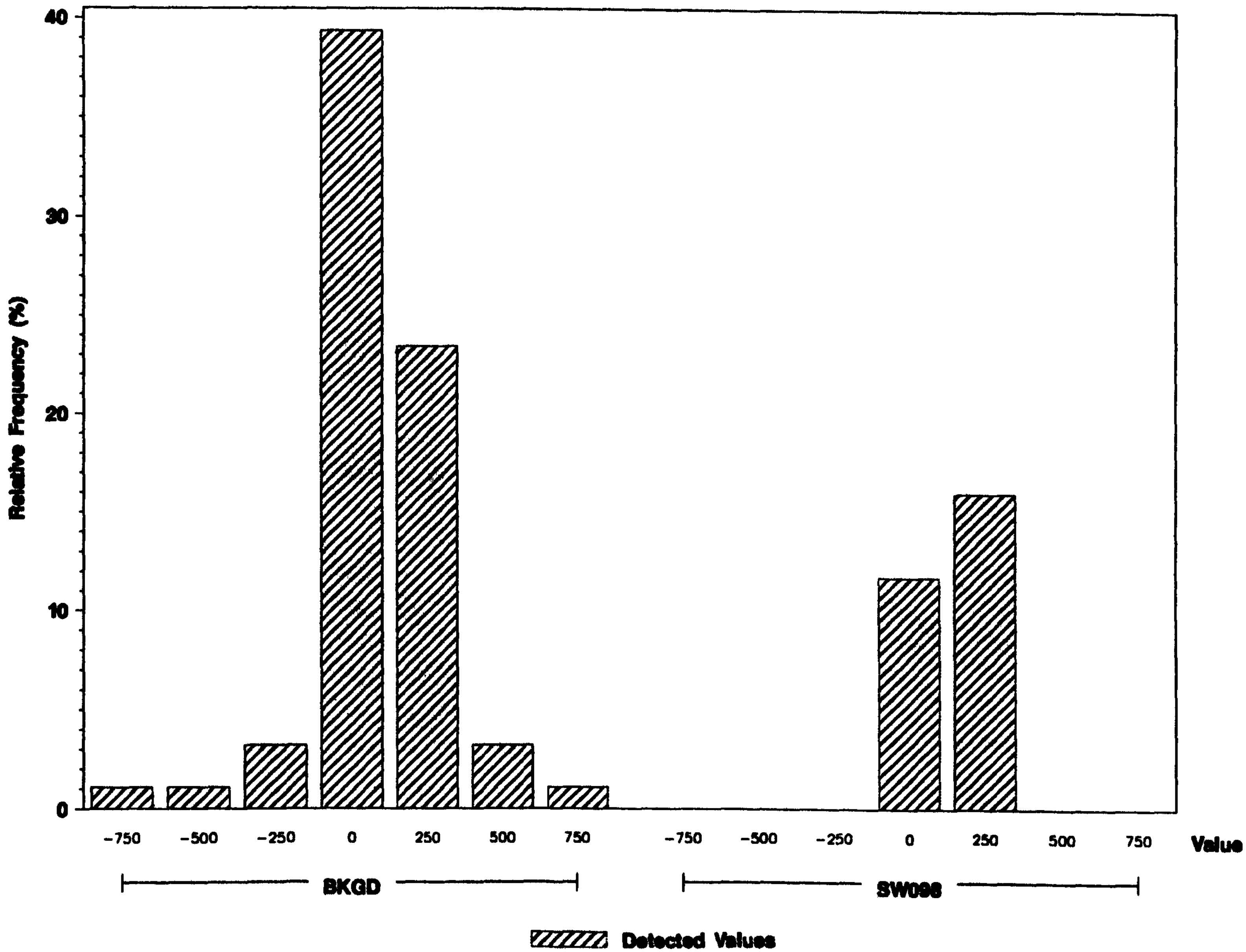
ANALYTE=TOTAL RADIOCESIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total TRITIUM (pCI/L) In Surface Water

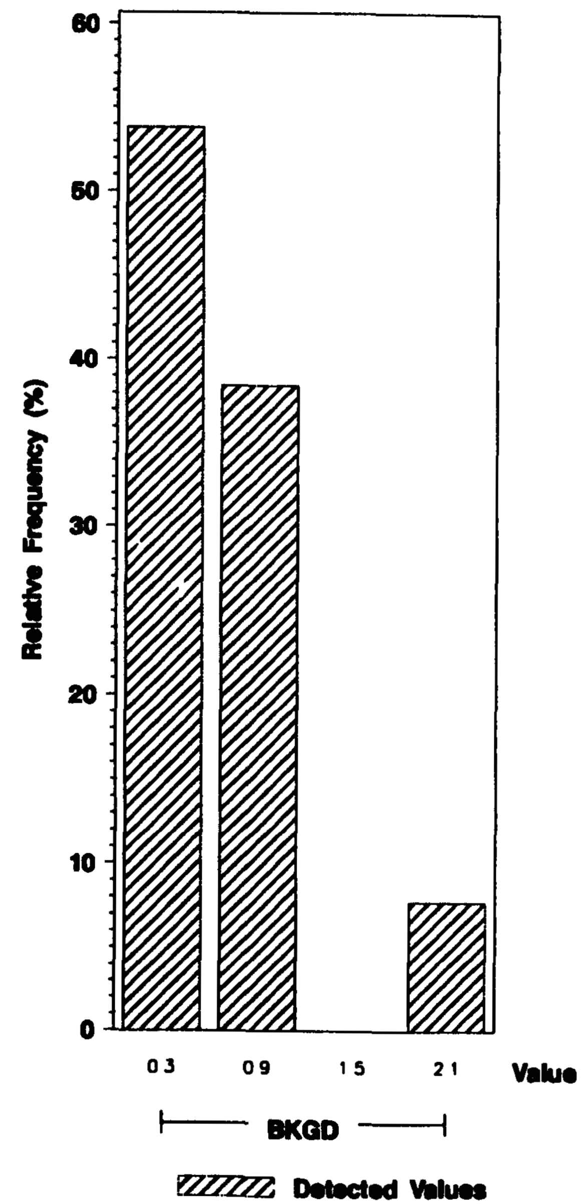
ANALYTE = TRITIUM



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total URANIUM, TOTAL (pCi/L) in Surface Water

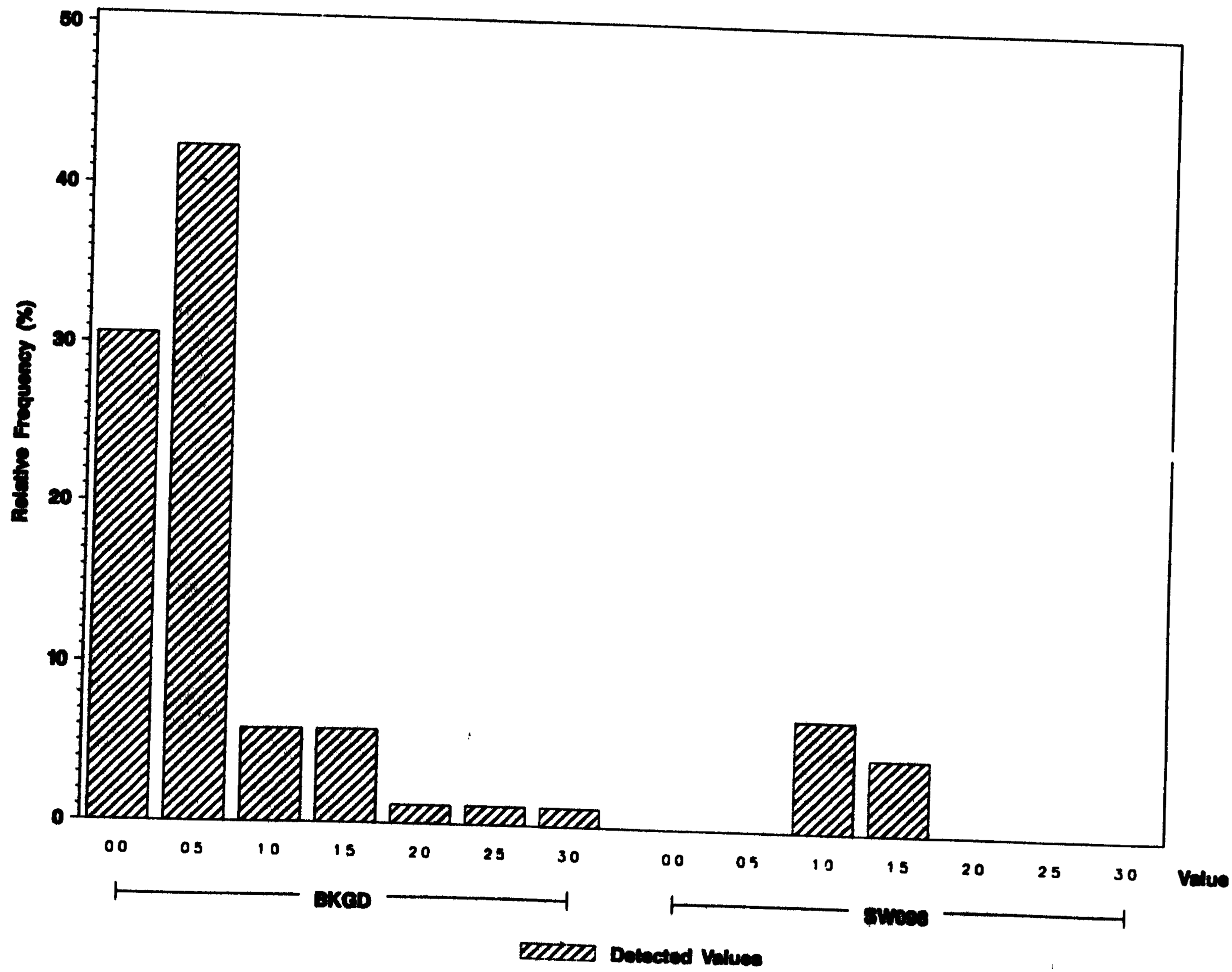
ANALYTE=URANIUM, TOTAL



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total URANIUM – 233, – 234 (pCi/L) in Surface Water

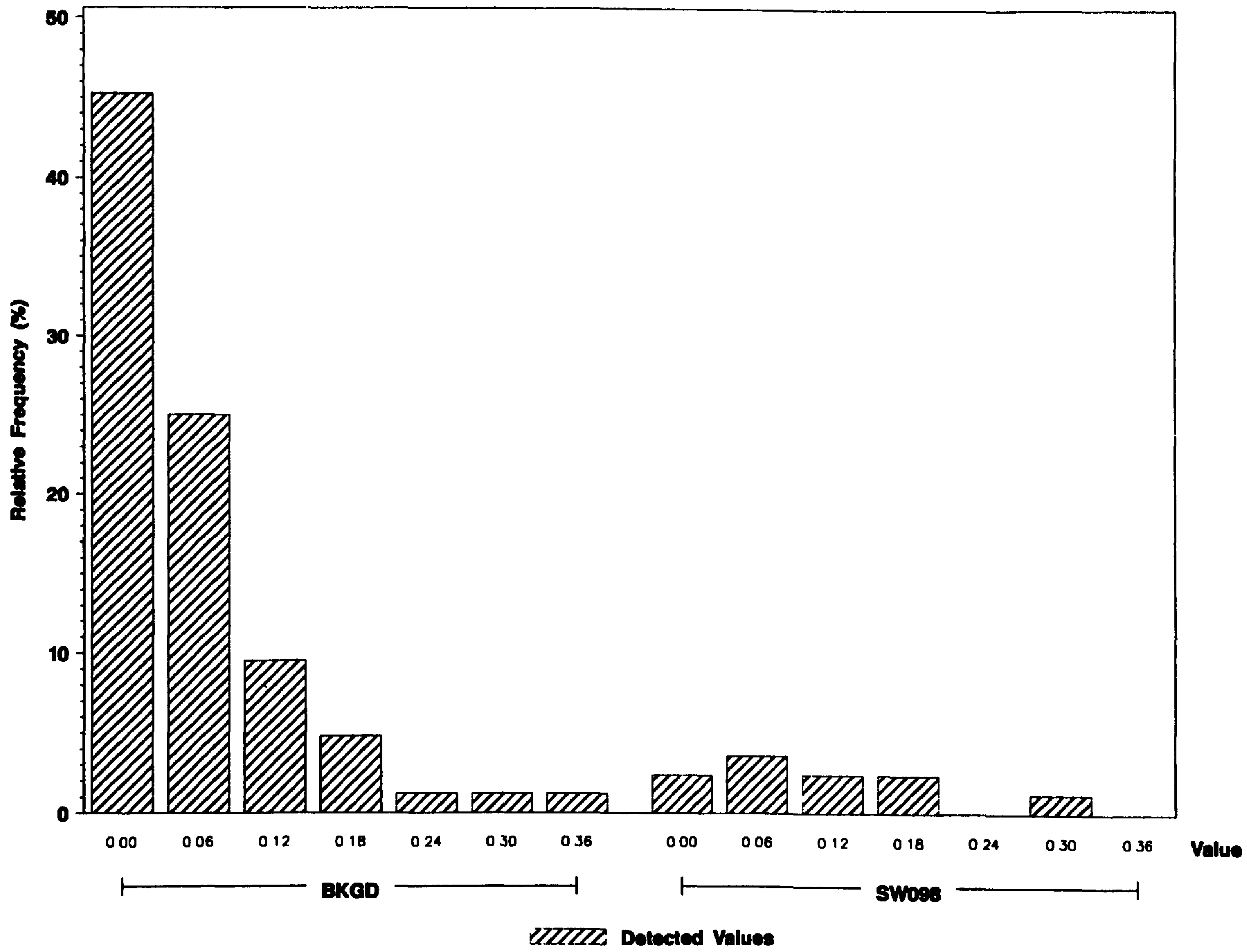
ANALYTE = URANIUM – 233, – 234



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total URANIUM-235 (pCi/L) In Surface Water

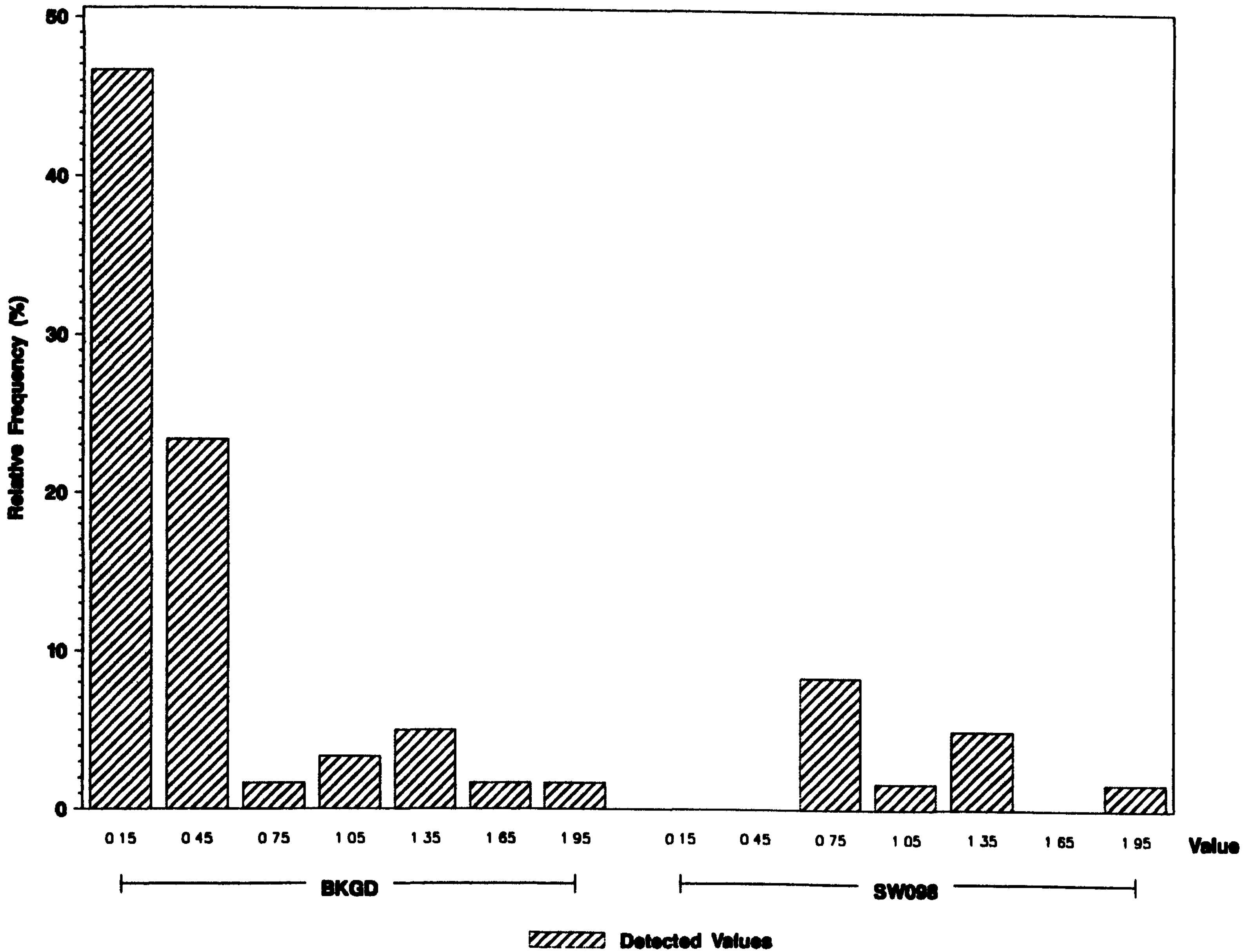
ANALYTE=URANIUM-235



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total URANIUM-238 (pCi/L) In Surface Water

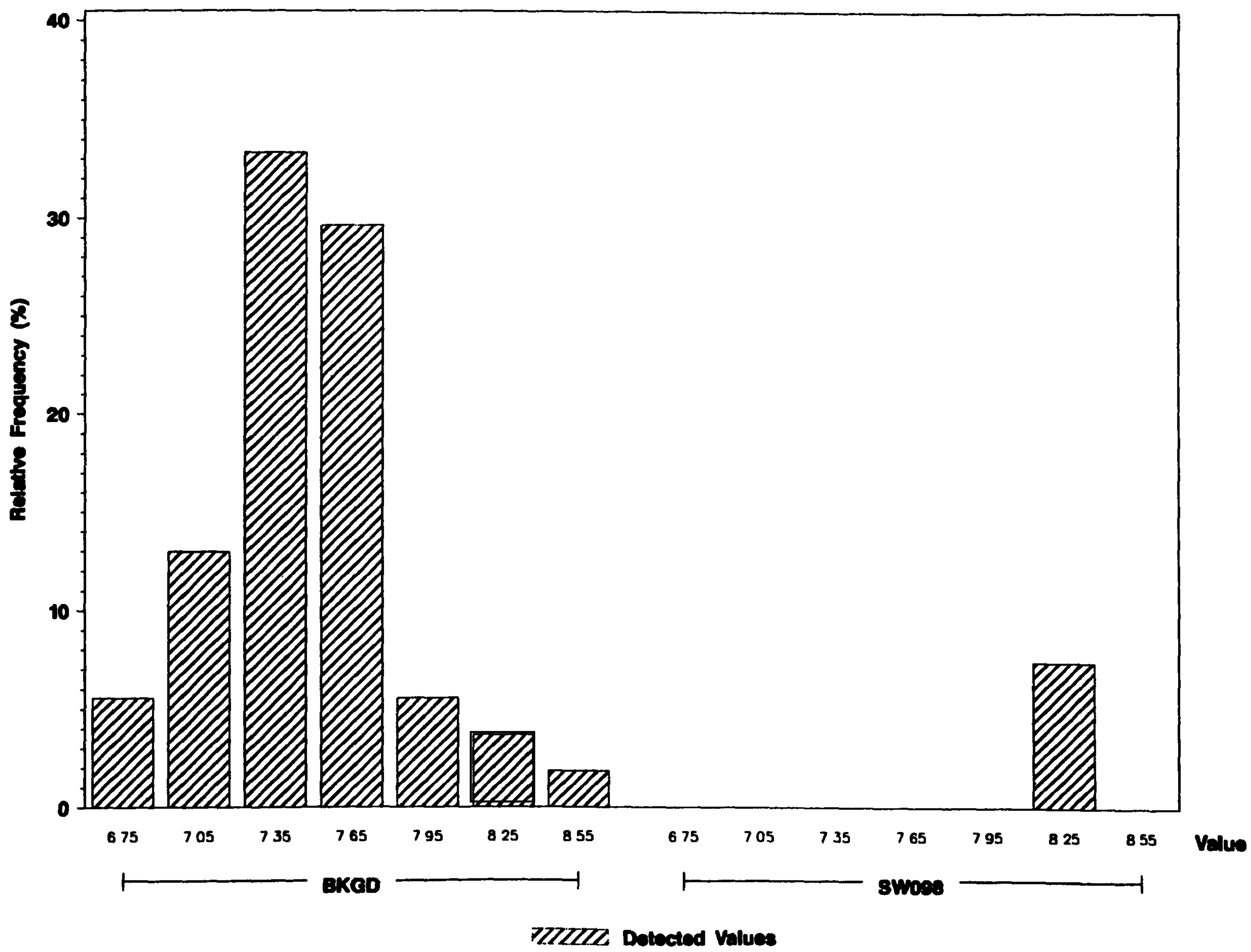
ANALYTE=URANIUM-238



Background vs OU7 Surface Water (SW098) Frequency Histogram

Total pH in Surface Water

ANALYTE = pH



Surface Water

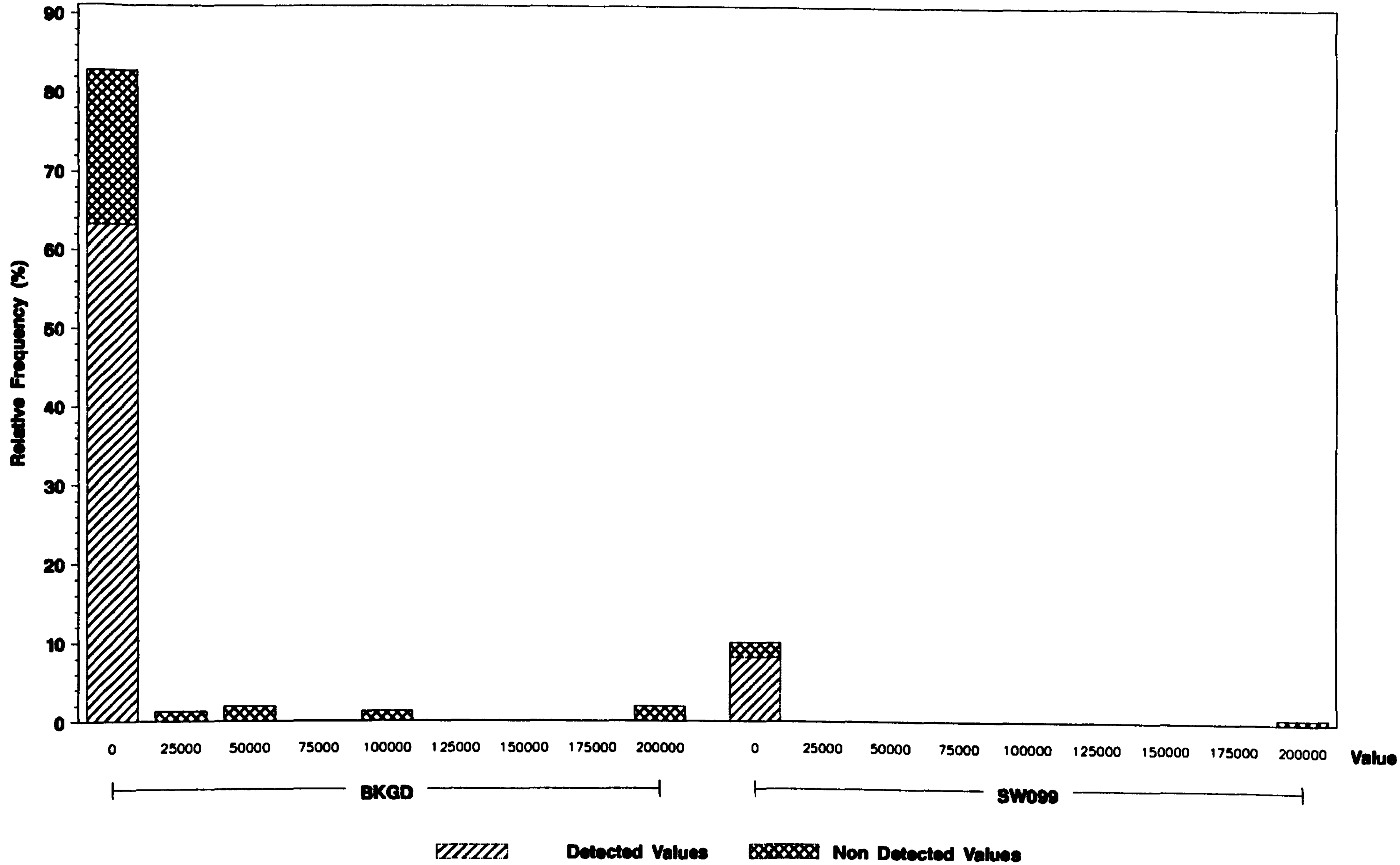
(Dissolved)

Background vs. OU 7 (SW099)

Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved BARIUM (ug/L) in Surface Water

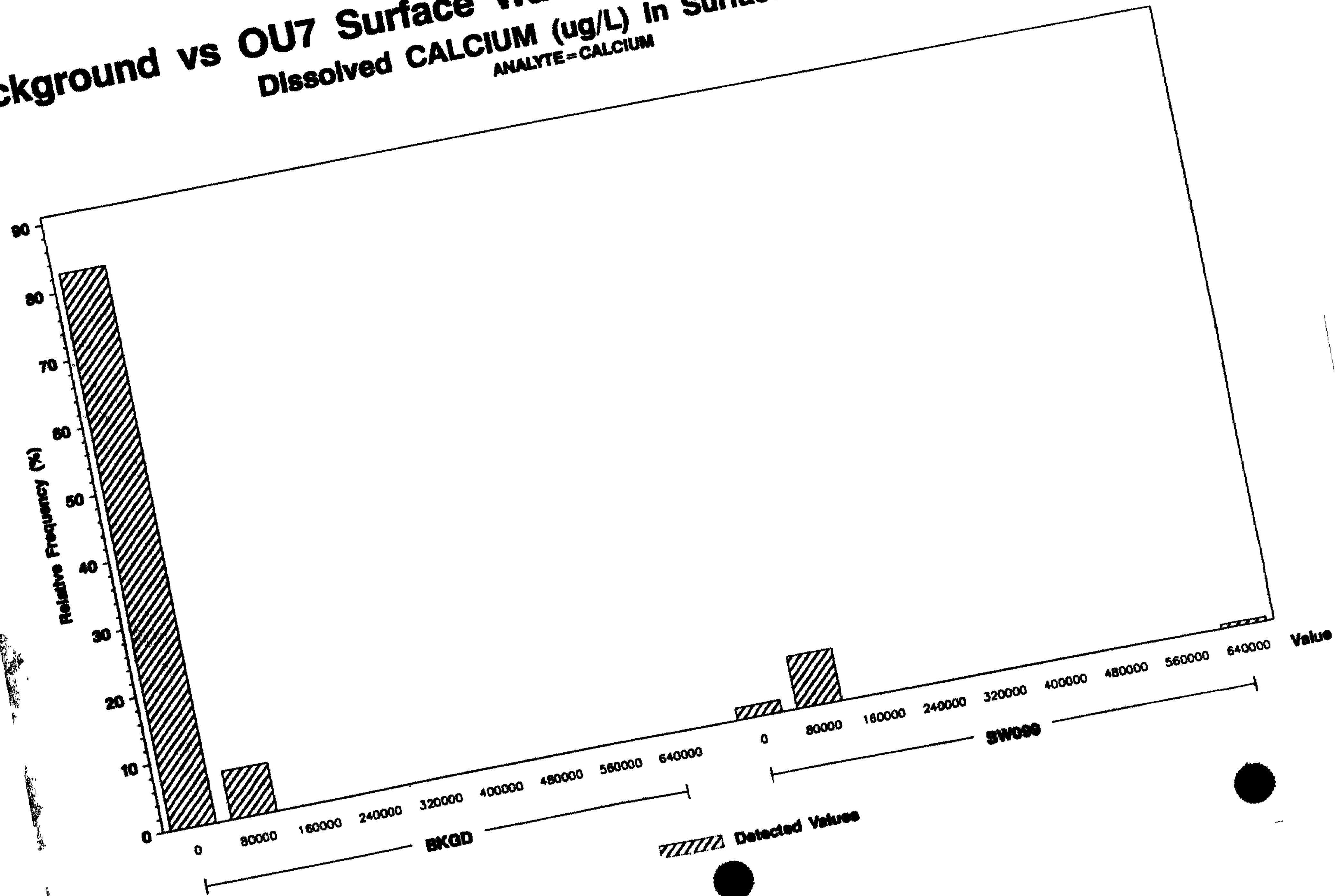
ANALYTE=BARIUM



...ckground vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved CALCIUM (ug/L) In Surface Water

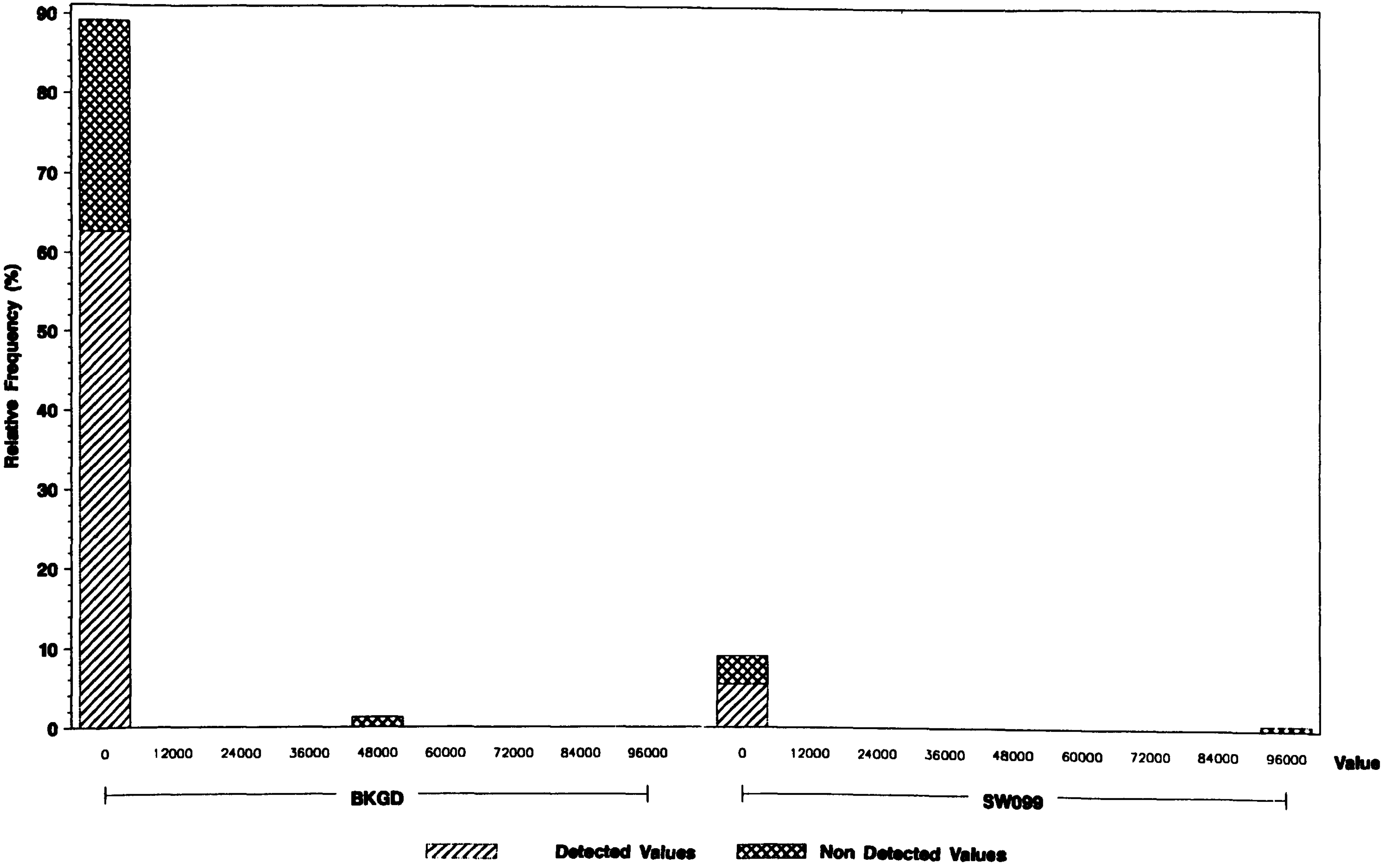
ANALYTE=CALCIUM



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved IRON (ug/L) in Surface Water

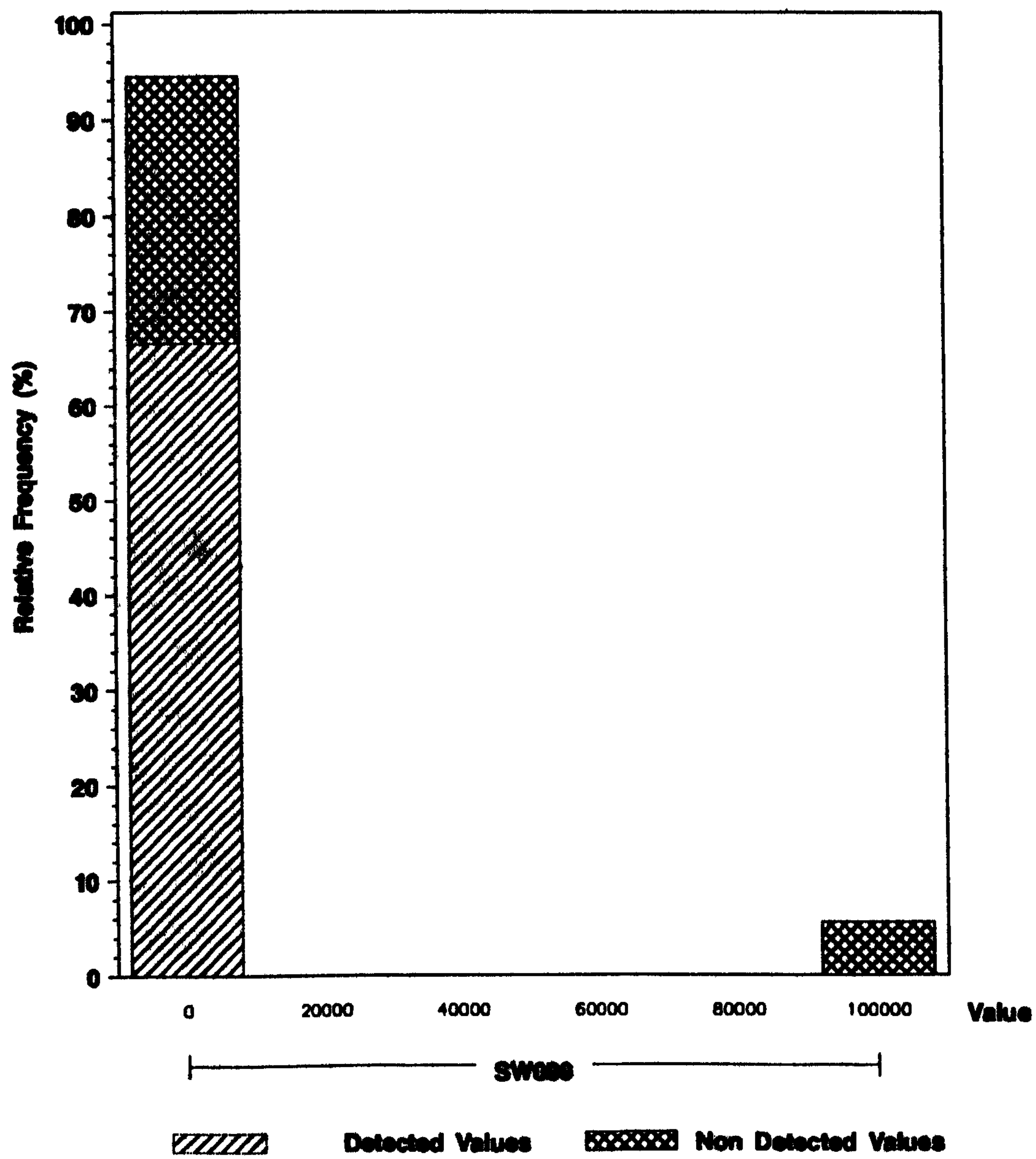
ANALYTE=IRON



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved LITHIUM (ug/L) in Surface Water

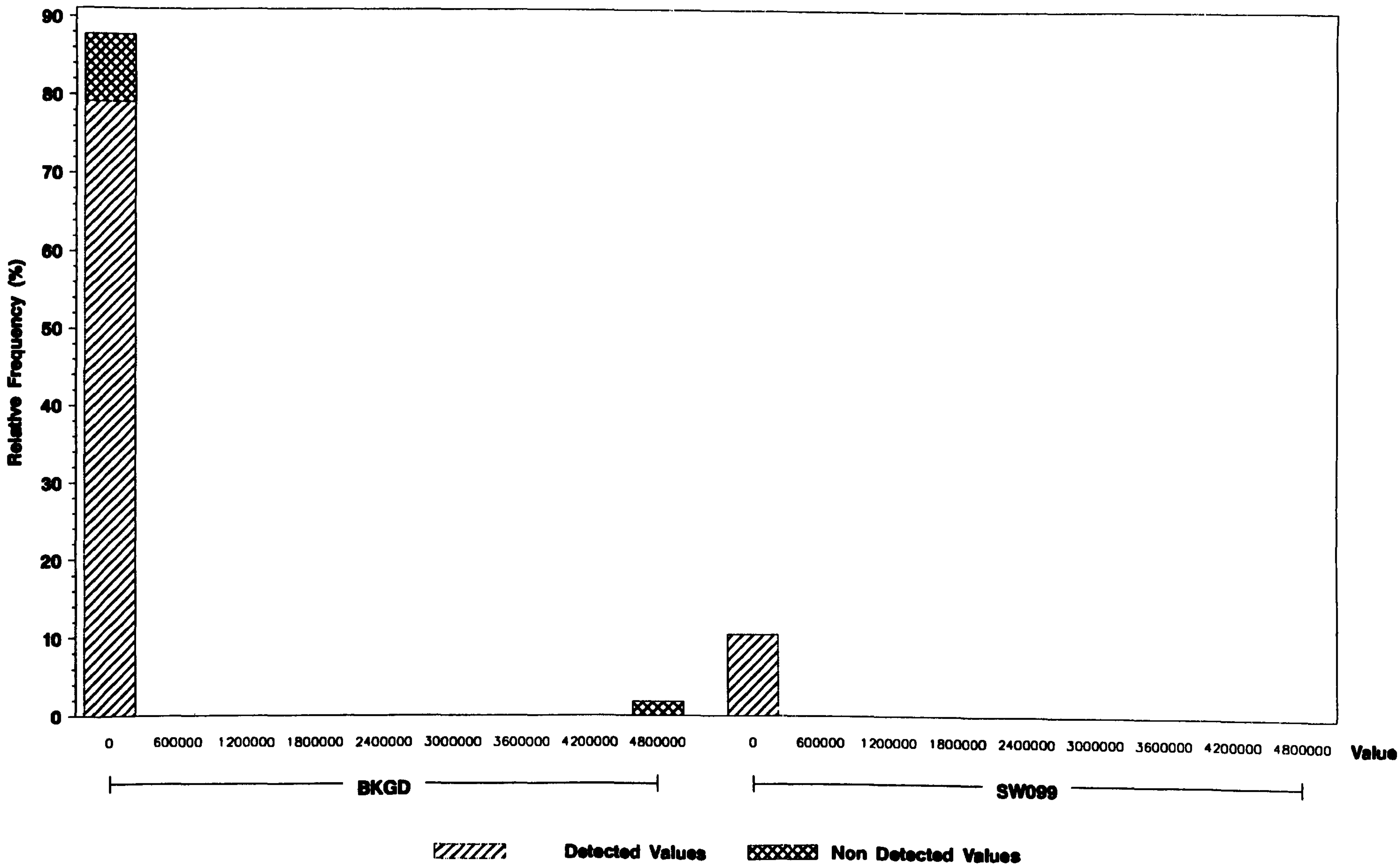
ANALYTE=LITHIUM



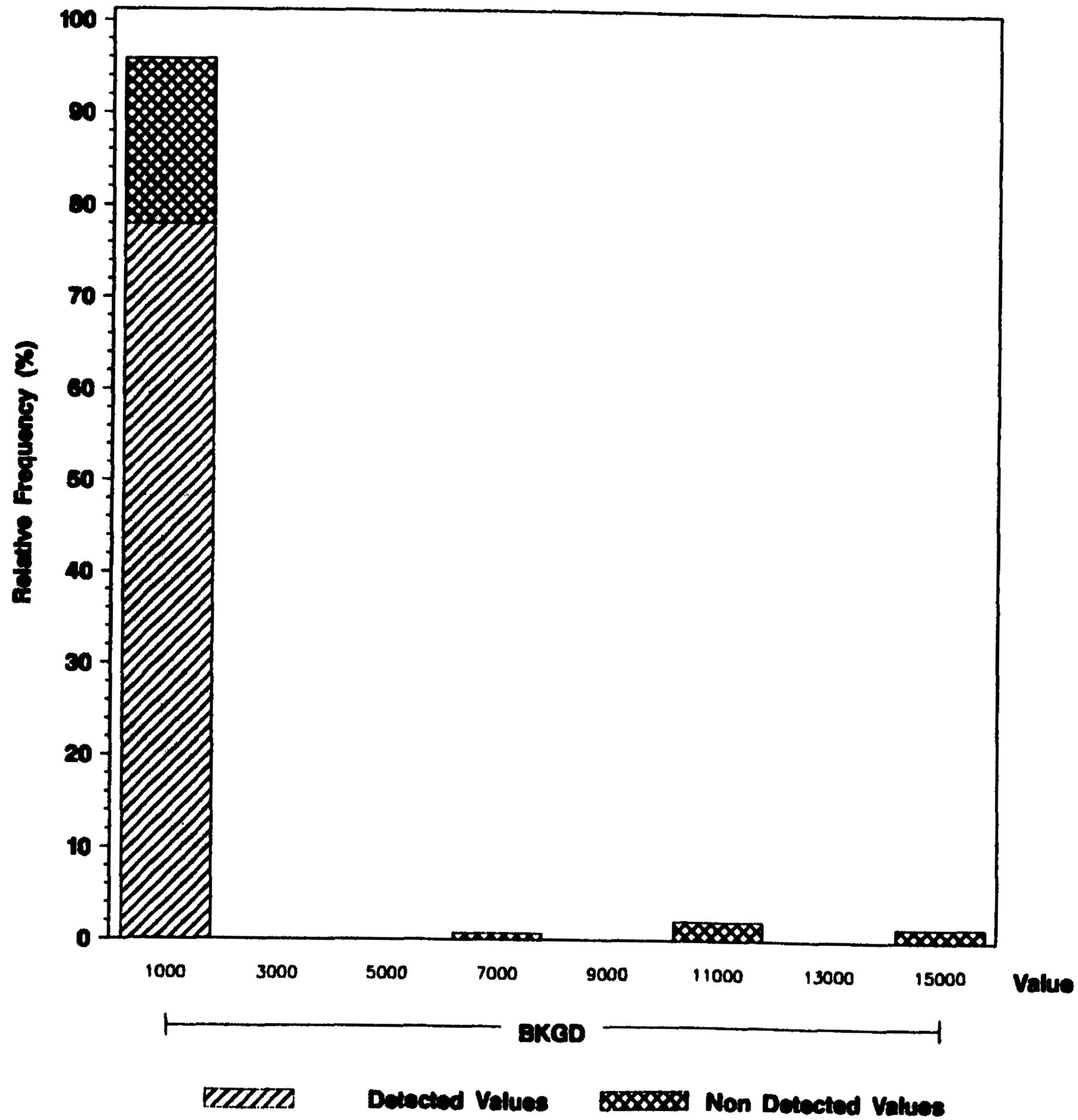
Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved MAGNESIUM (ug/L) in Surface Water

ANALYTE=MAGNESIUM



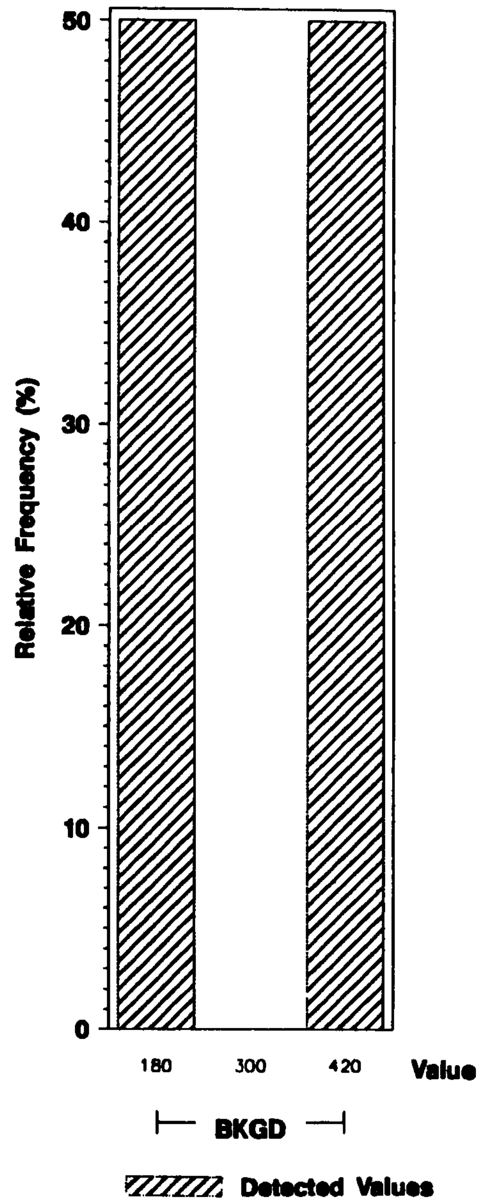
Background vs OU7 Surface Water (SW099) Frequency Histogram
Dissolved MANGANESE (ug/L) in Surface Water
ANALYTE=MANGANESE



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved PHOSPHORUS (ug/L) in Surface Water

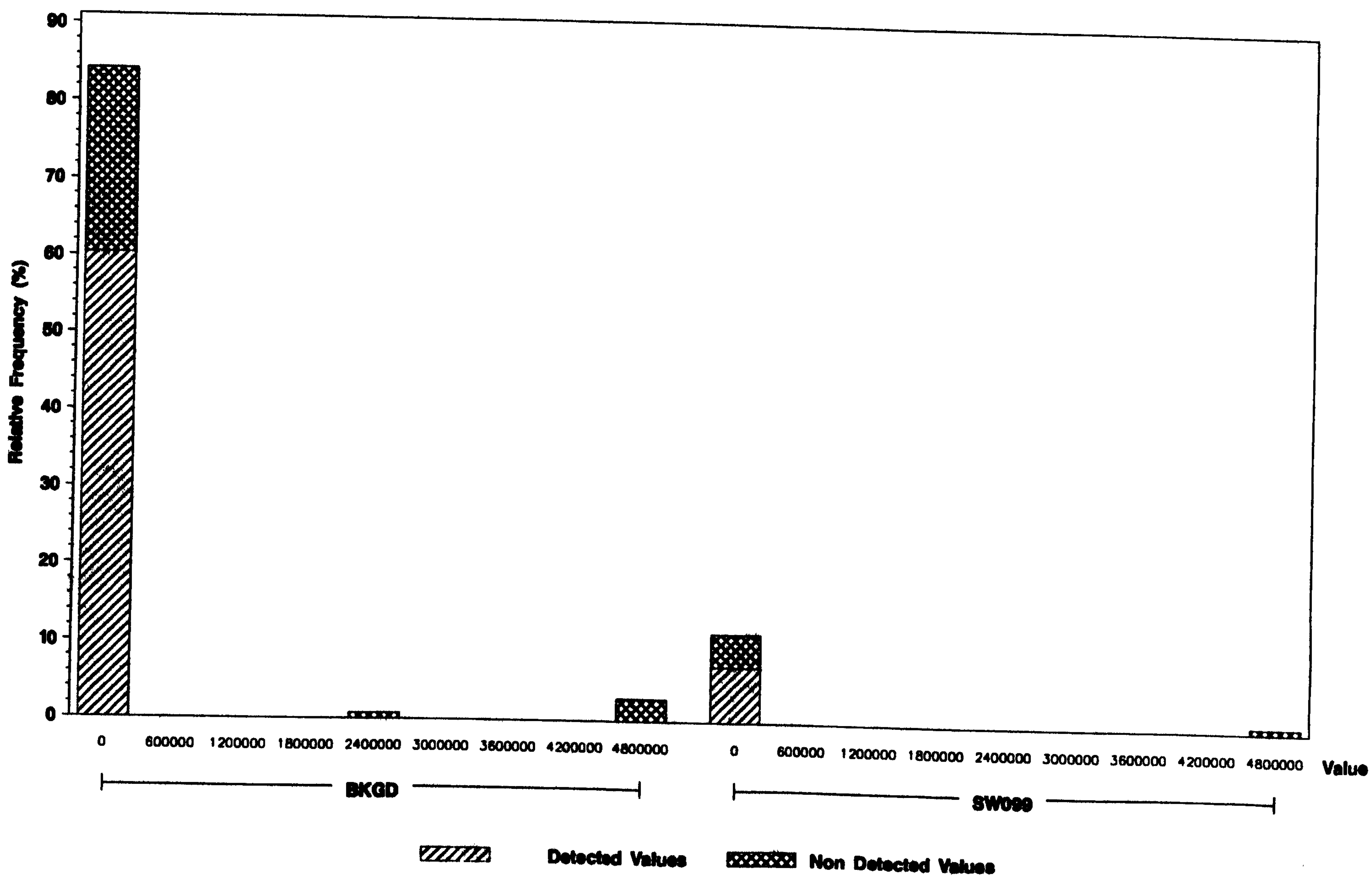
ANALYTE=PHOSPHORUS



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved POTASSIUM (ug/L) in Surface Water

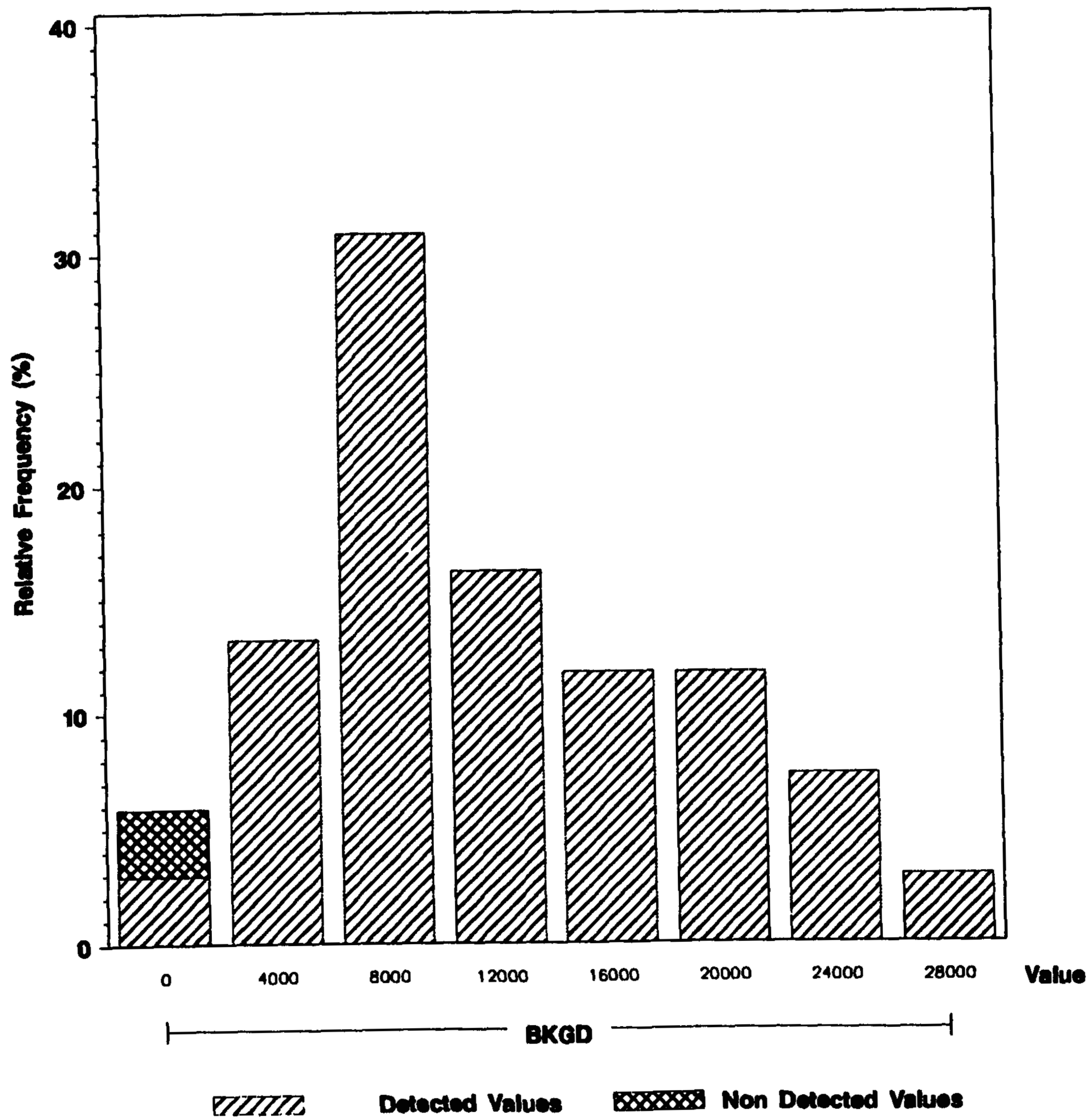
ANALYTE = POTASSIUM



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved SILICA (ug/L) in Surface Water

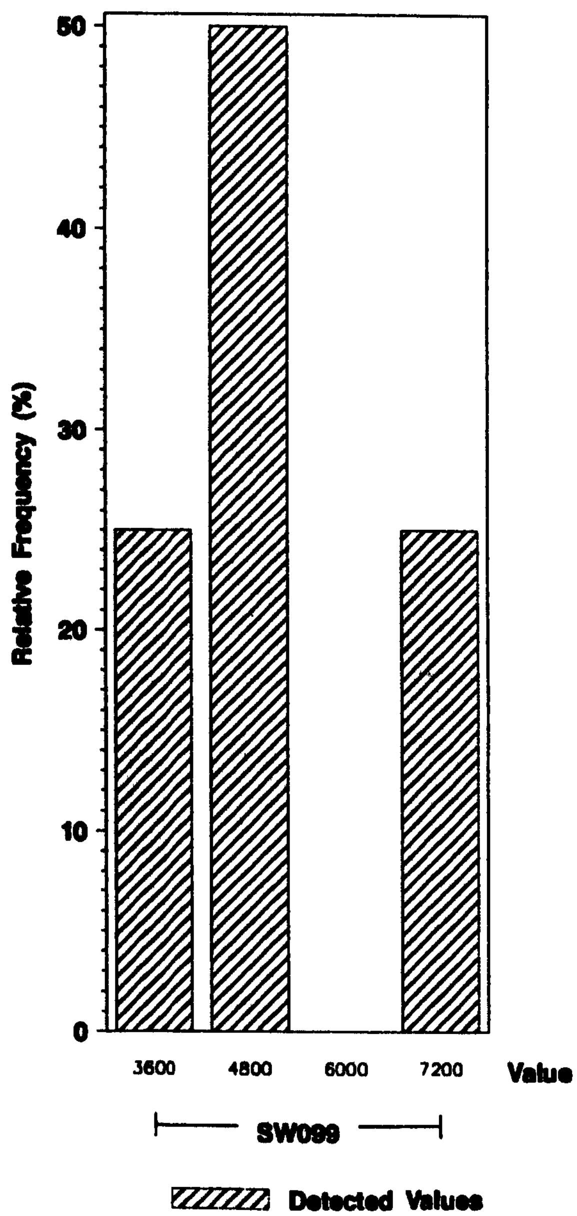
ANALYTE=SILICA



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved SILICON (ug/L) in Surface Water

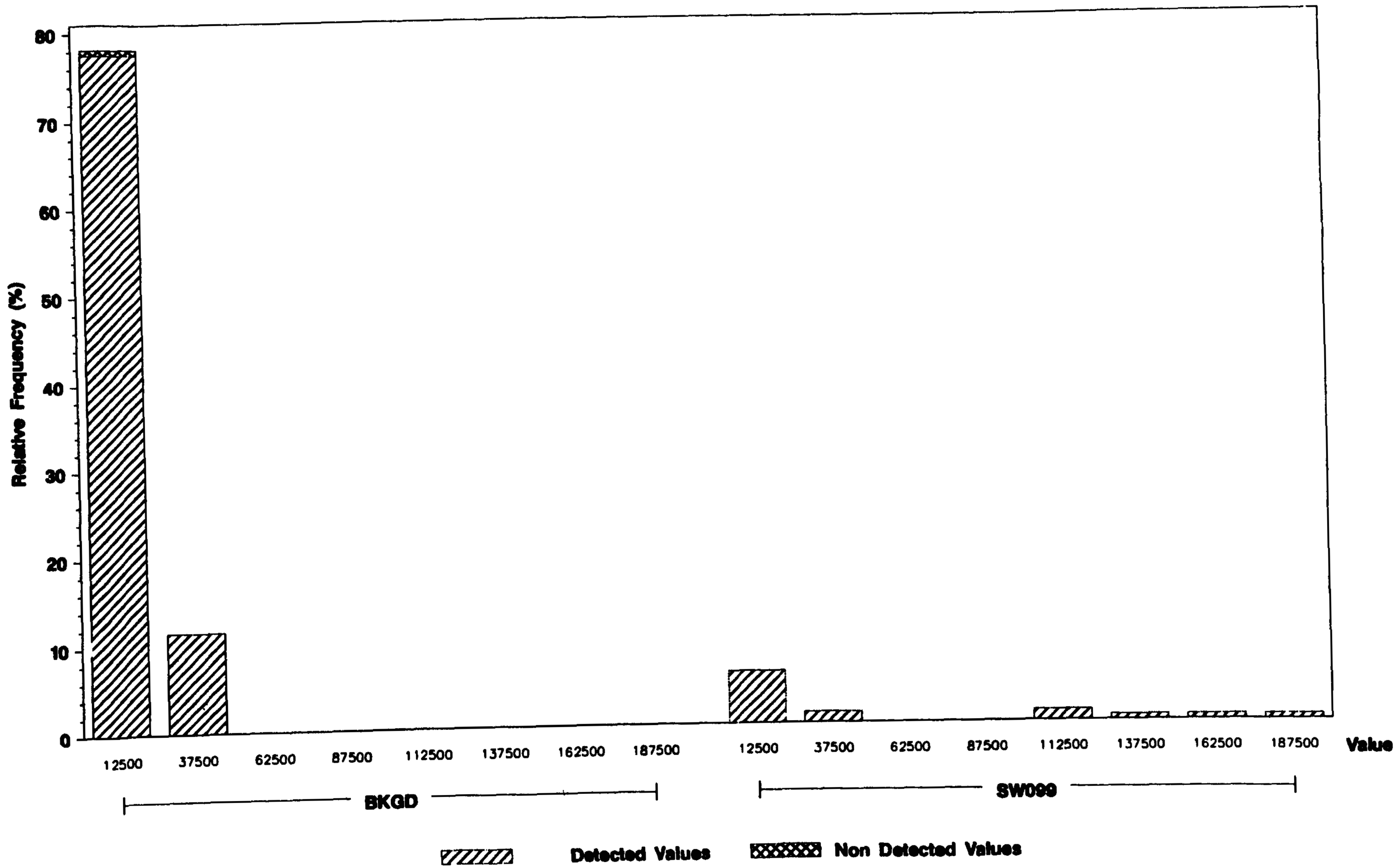
ANALYTE = SILICON



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved SODIUM (ug/L) in Surface Water

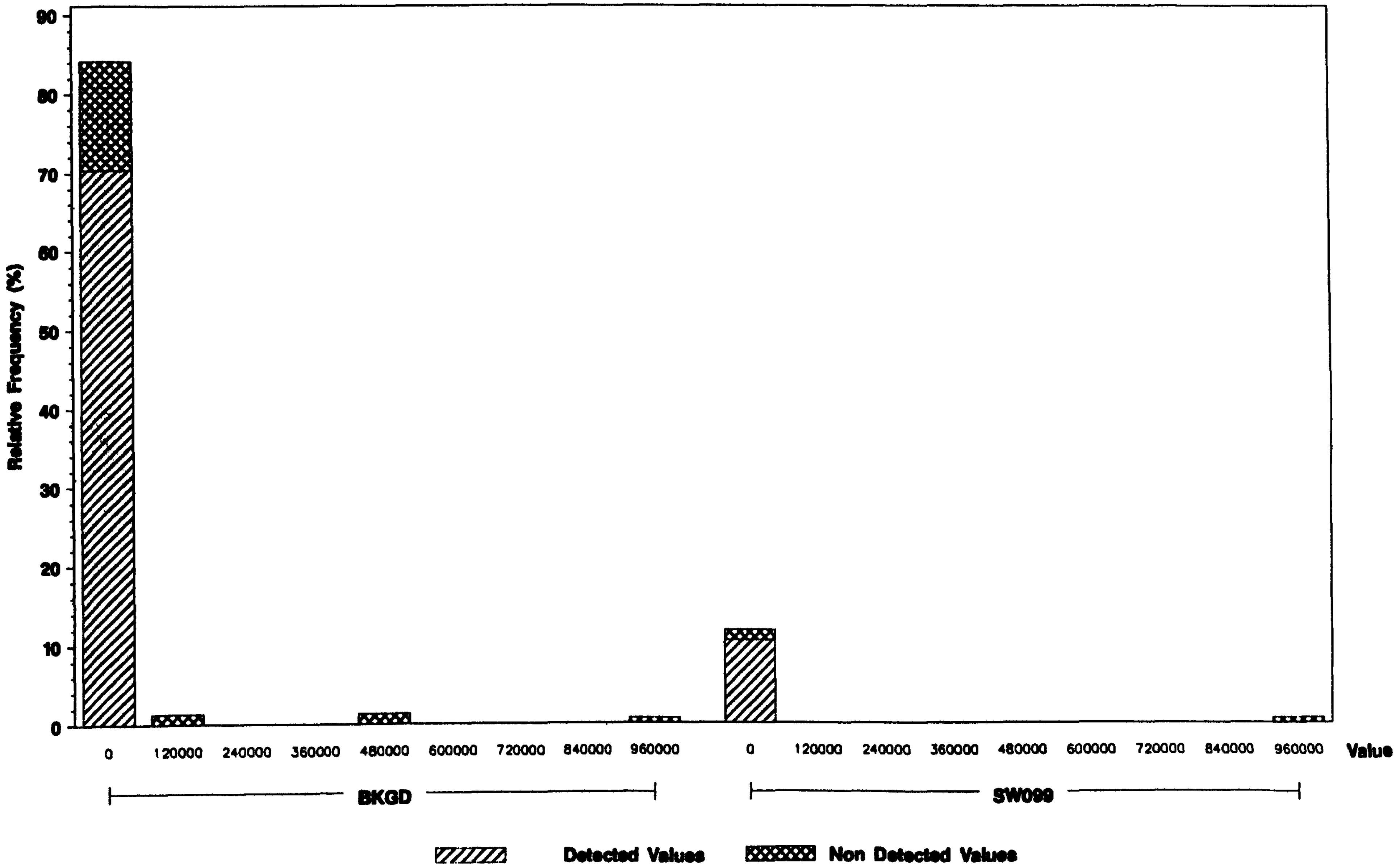
ANALYTE=SODIUM



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved STRONTIUM (ug/L) in Surface Water

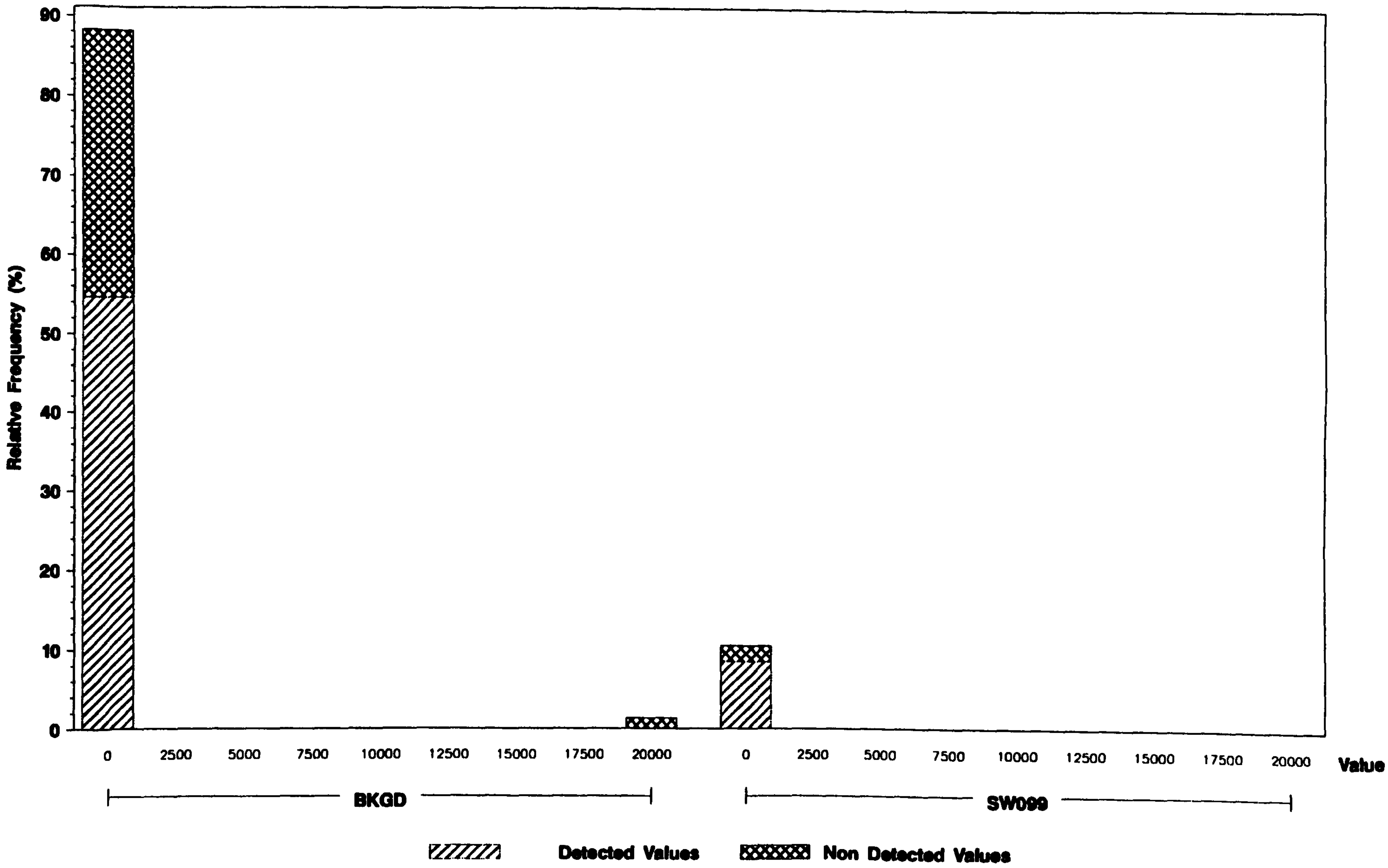
ANALYTE=STRONTIUM



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved ZINC (ug/L) in Surface Water

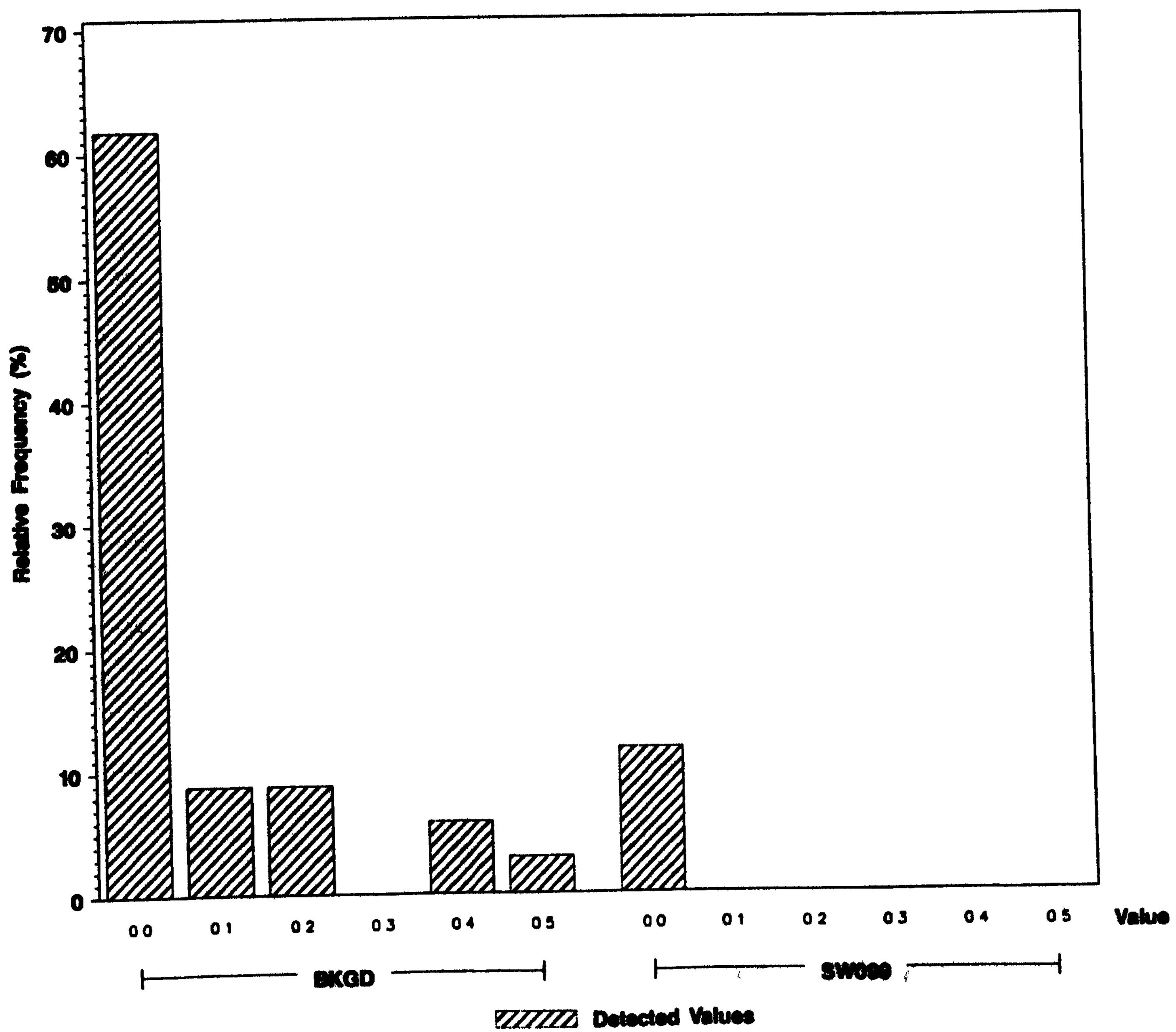
ANALYTE=ZINC



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved AMERICIUM-241 (pCI/L) In Surface Water

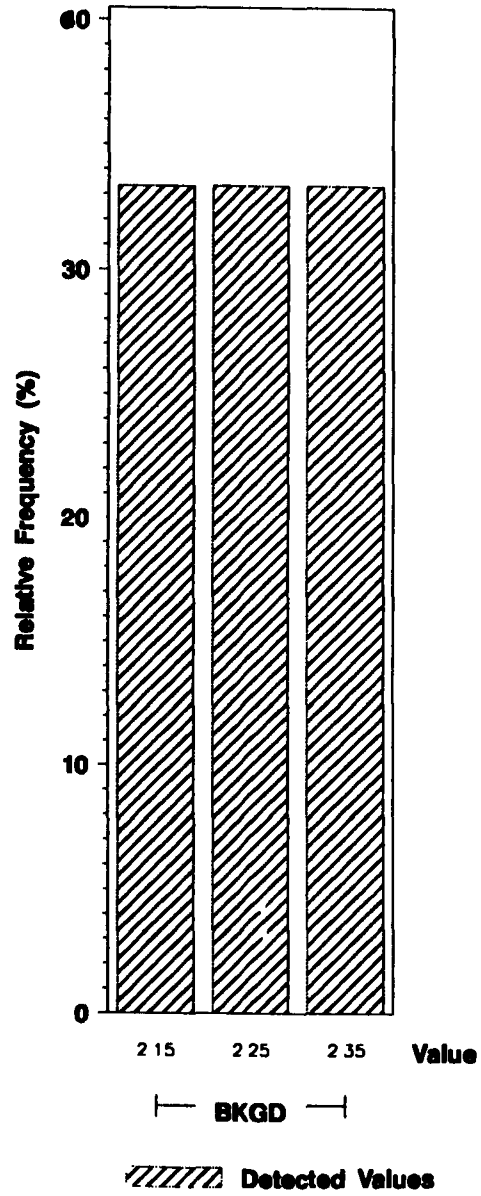
ANALYTE=AMERICIUM-241



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved CESIUM-134 (pCi/L) in Surface Water

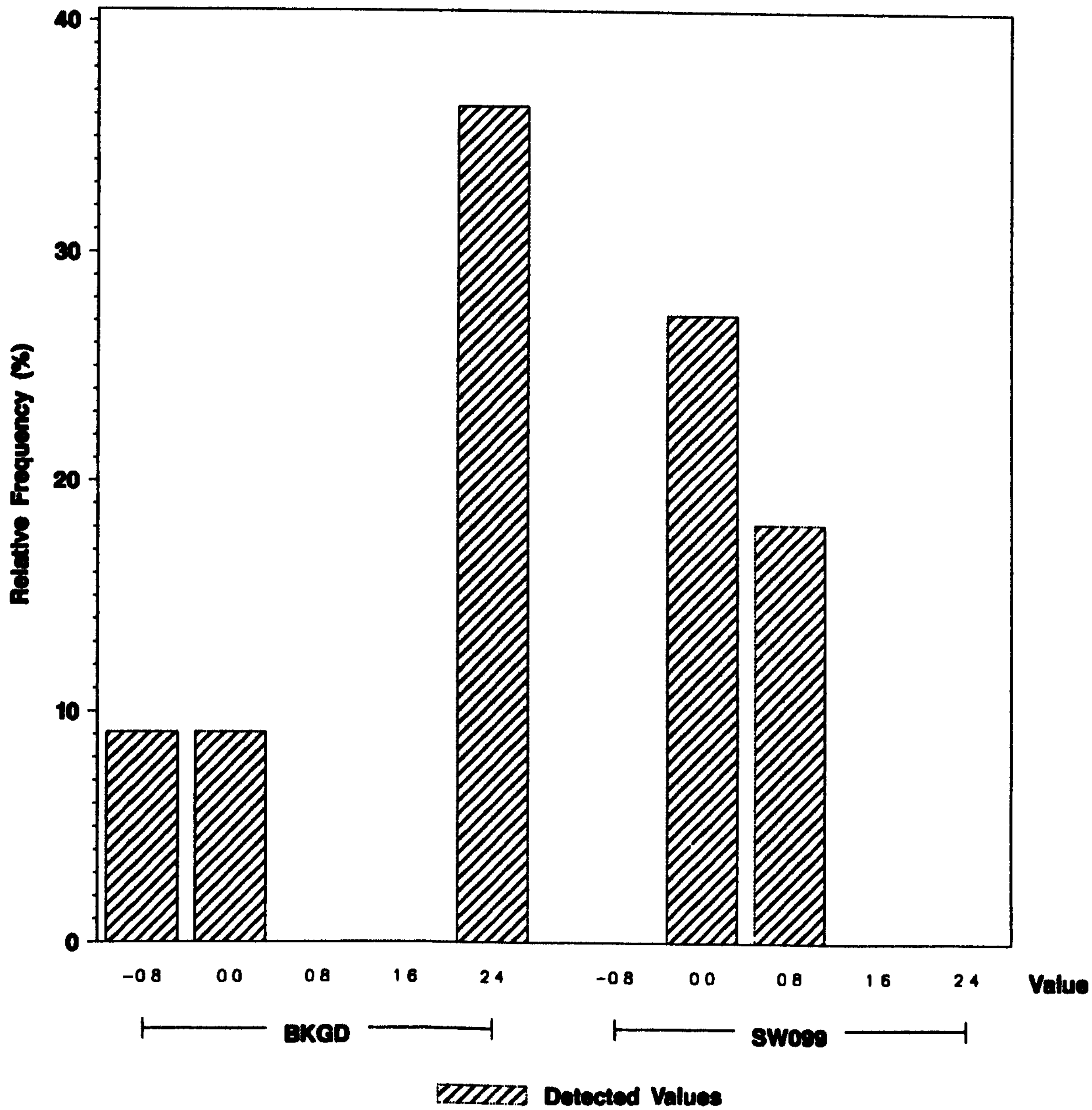
ANALYTE = CESIUM - 134



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved CESIUM-137 (pCi/L) in Surface Water

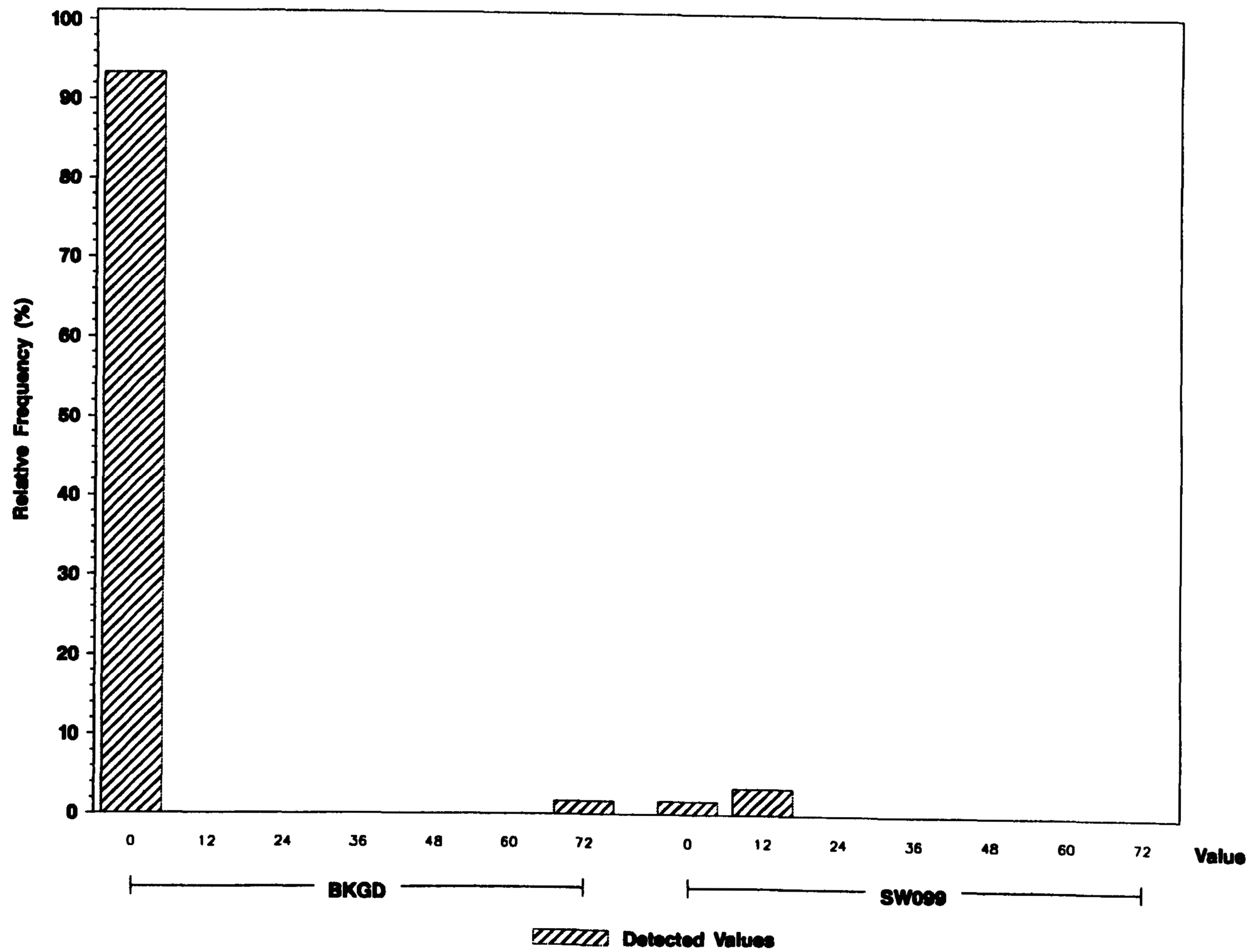
ANALYTE=CESIUM-137



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved GROSS ALPHA (pCi/L) in Surface Water

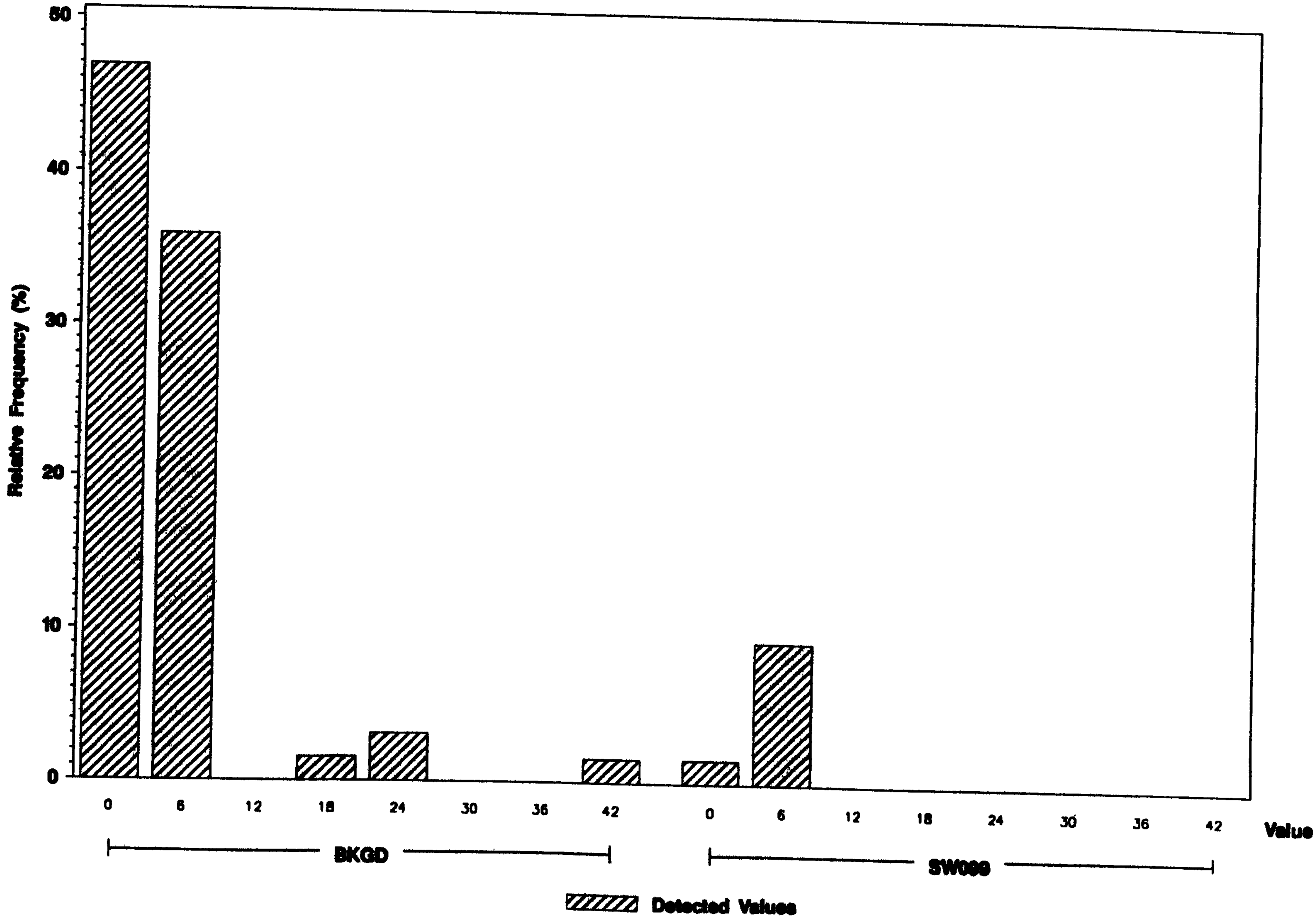
ANALYTE=GROSS ALPHA



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved GROSS BETA (pCi/L) in Surface Water

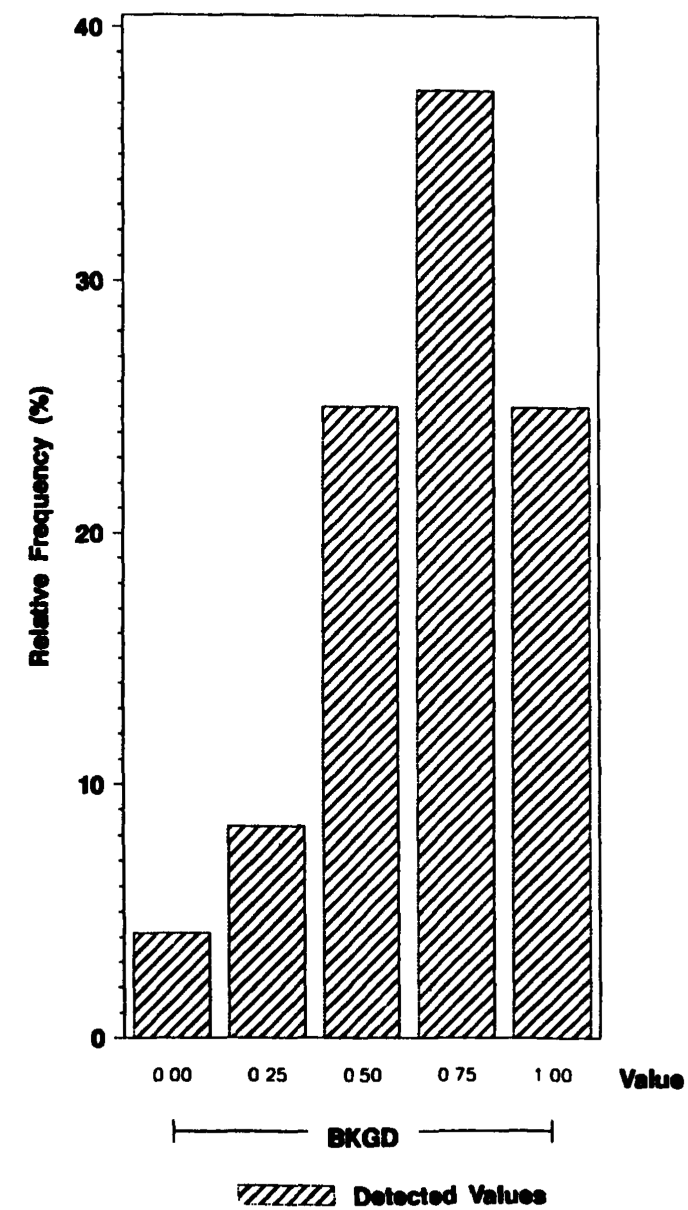
ANALYTE=GROSS BETA



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved GROSS GAMMA (pCi/L) in Surface Water

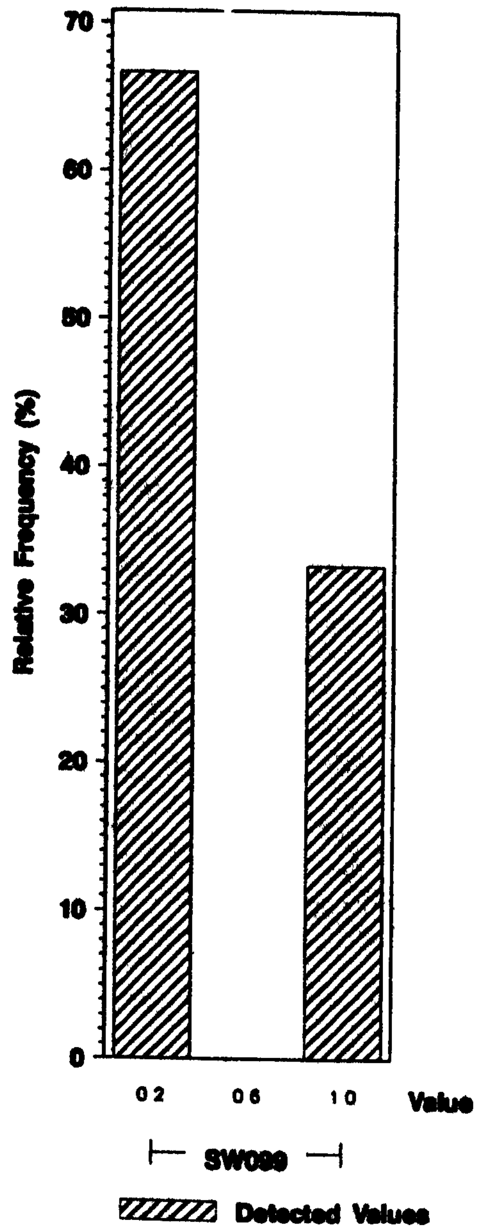
ANALYTE=GROSS GAMMA



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved NEPTUNIUM - 237 (pCI/L) In Surface Water

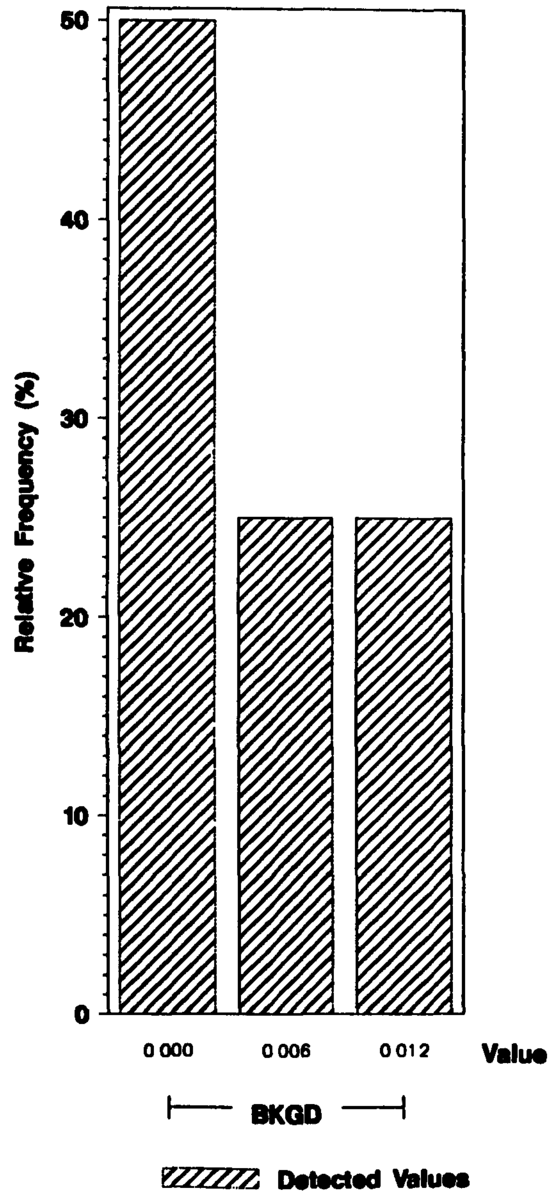
ANALYTE = NEPTUNIUM - 237



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved PLUTONIUM-236 (pCI/L) in Surface Water

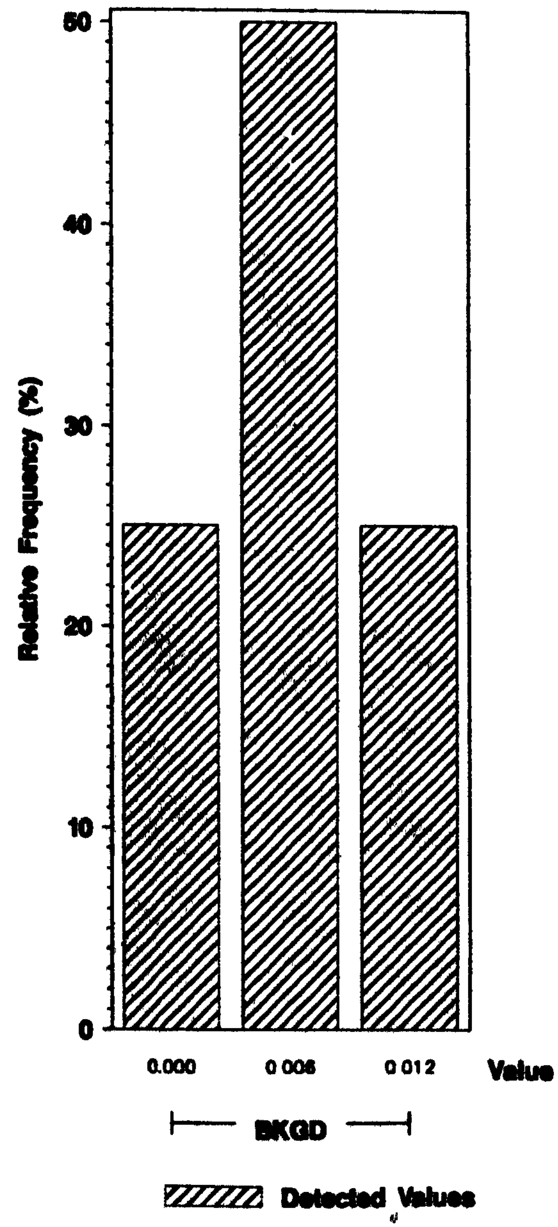
ANALYTE=PLUTONIUM-236



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved PLUTONIUM – 238 (pCI/L) In Surface Water

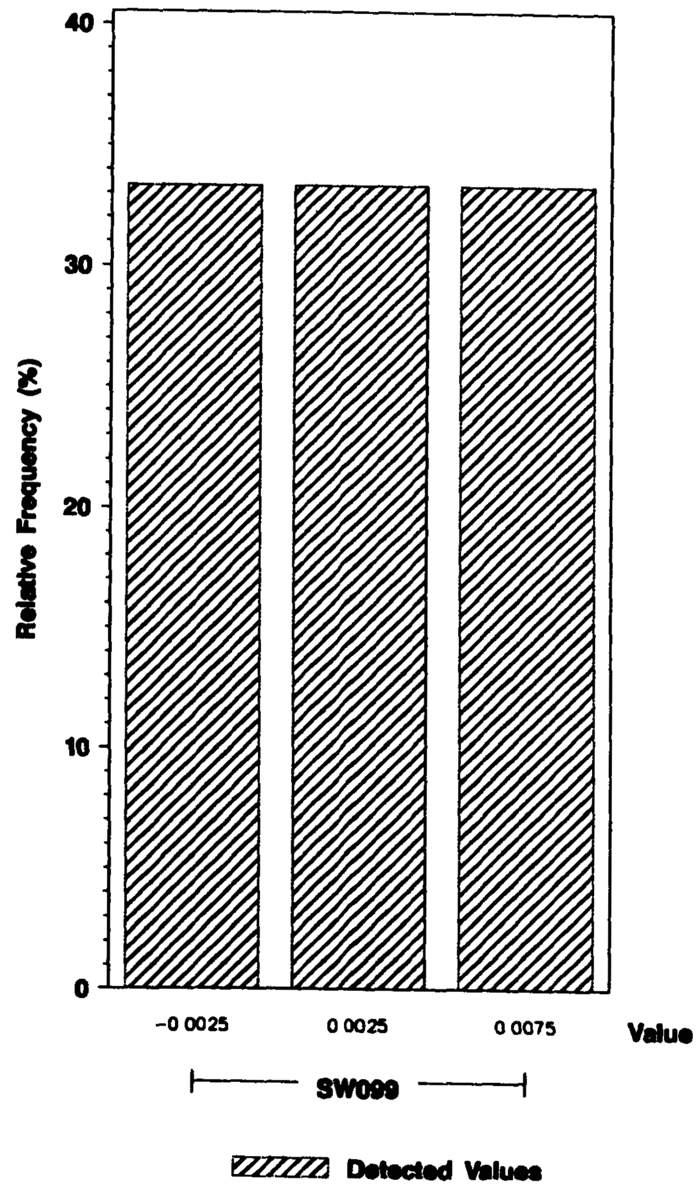
ANALYTE = PLUTONIUM – 238



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved PLUTONIUM-239 (pCi/L) in Surface Water

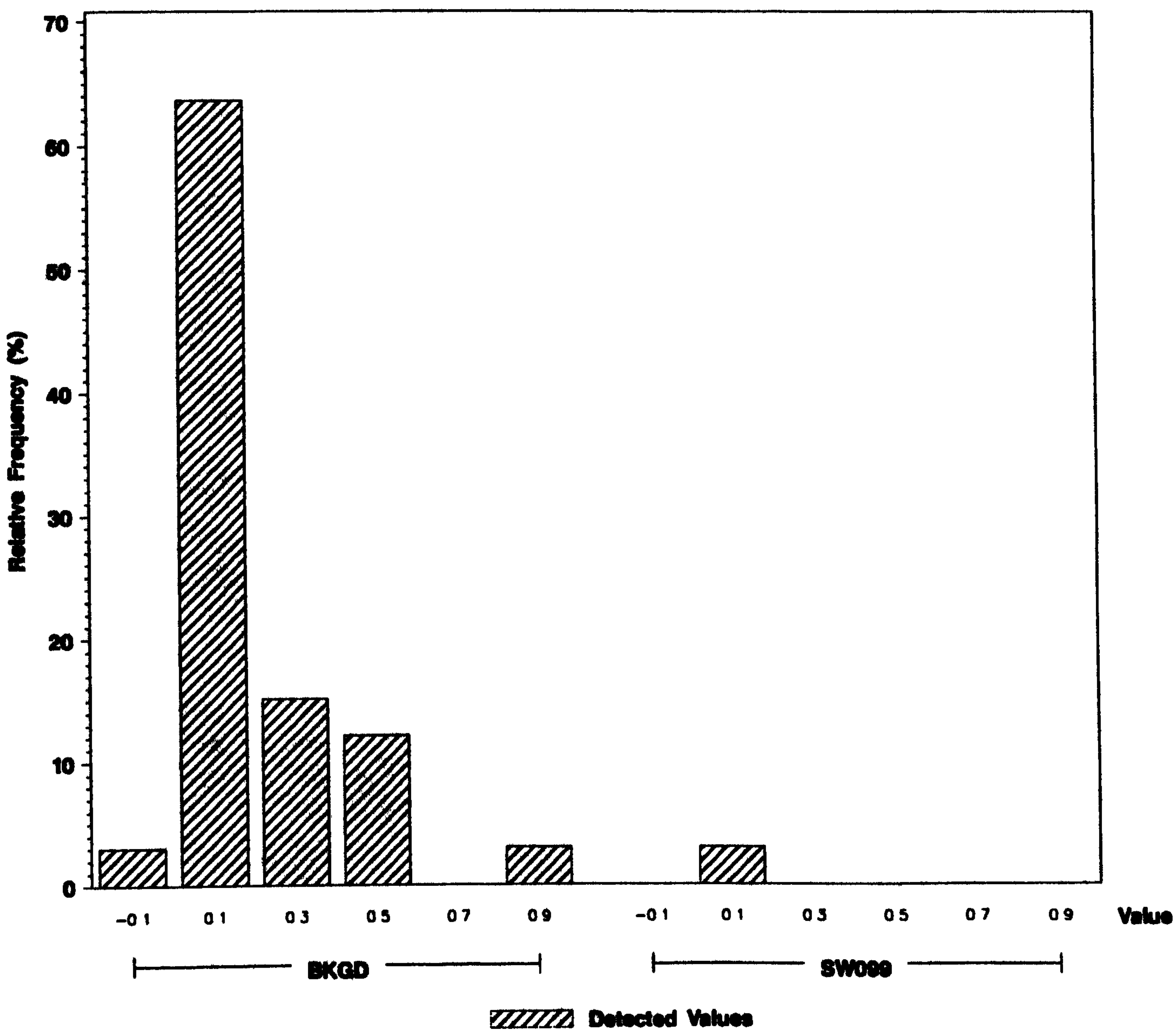
ANALYTE=PLUTONIUM-239



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved PLUTONIUM-239/240 (pCi/L) in Surface Water

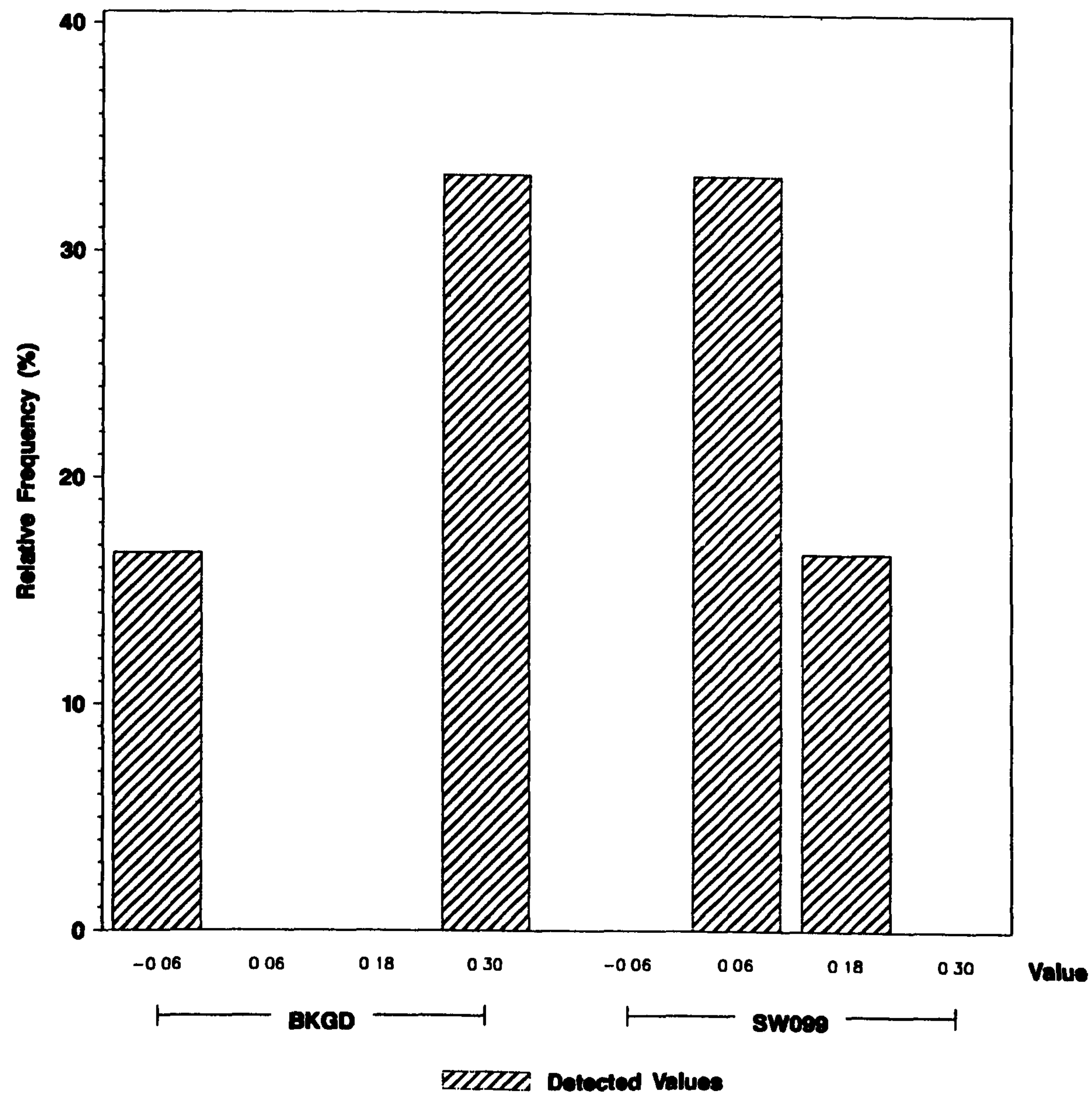
ANALYTE=PLUTONIUM-239/240



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved RADIUM-226 (pCi/L) in Surface Water

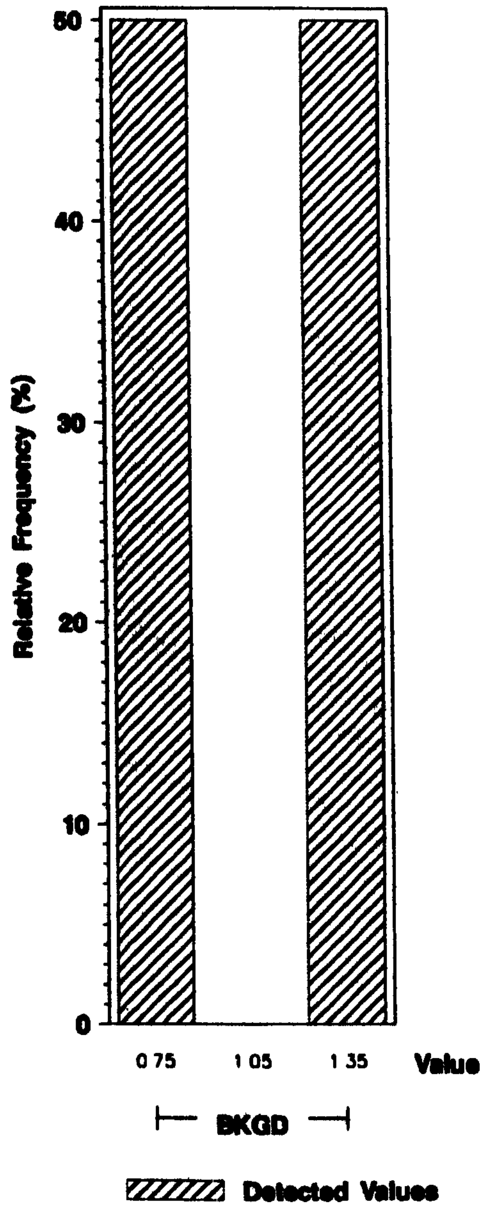
ANALYTE = RADIUM-226



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved RADIUM-228 (pCi/L) in Surface Water

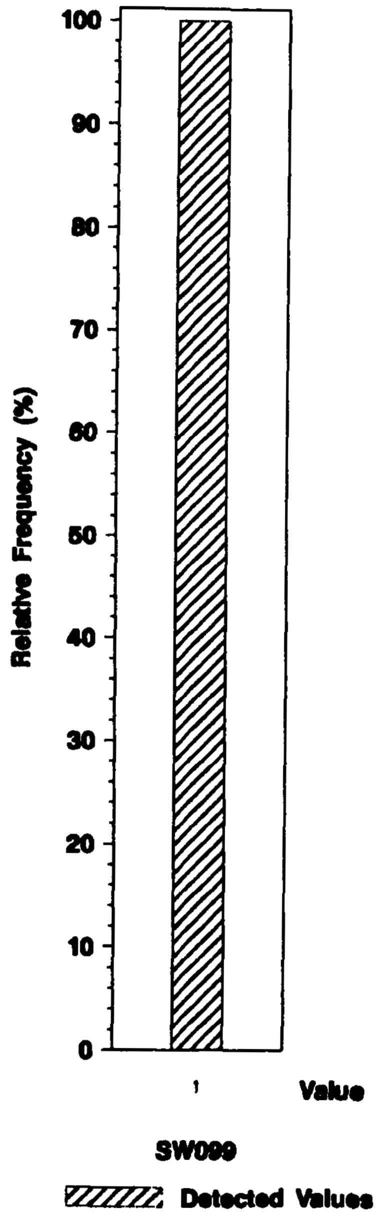
ANALYTE=RADIUM-228



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved STRONTIUM-89 (pCi/L) In Surface Water

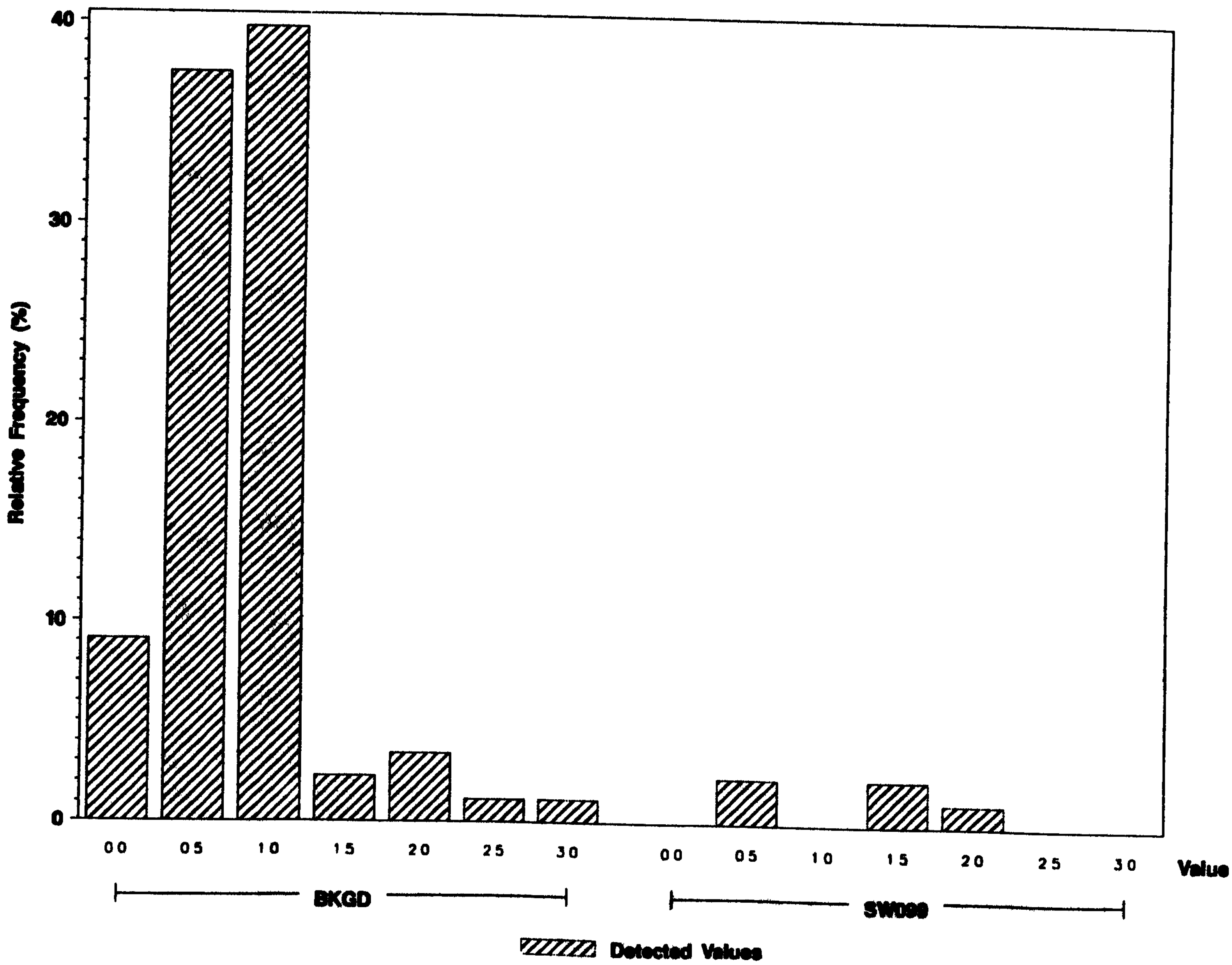
ANALYTE=STRONTIUM-89



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved STRONTIUM – 89,90 (pCi/L) in Surface Water

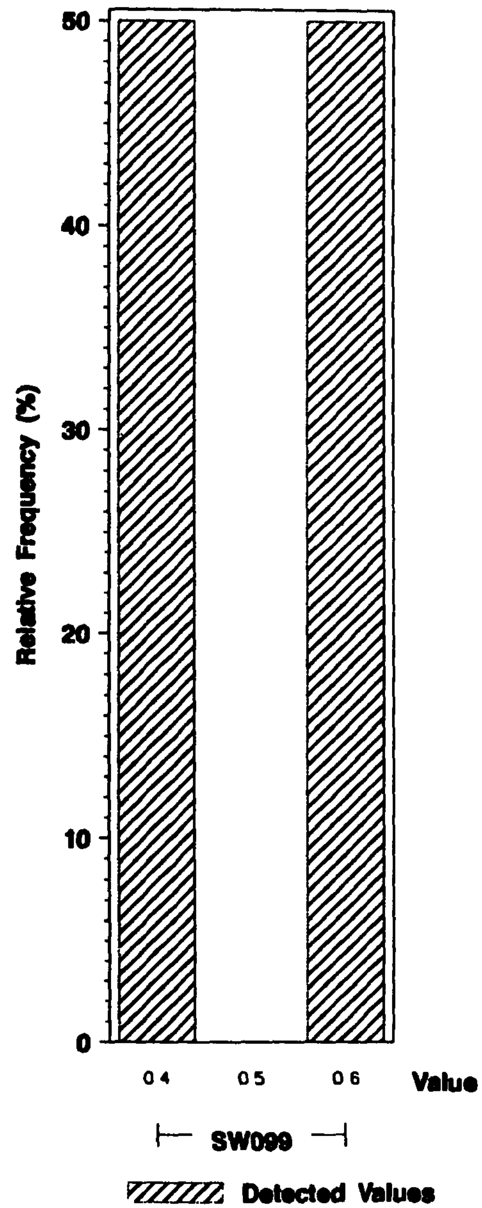
ANALYTE = STRONTIUM – 89,90



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved STRONTIUM-90 (pCi/L) in Surface Water

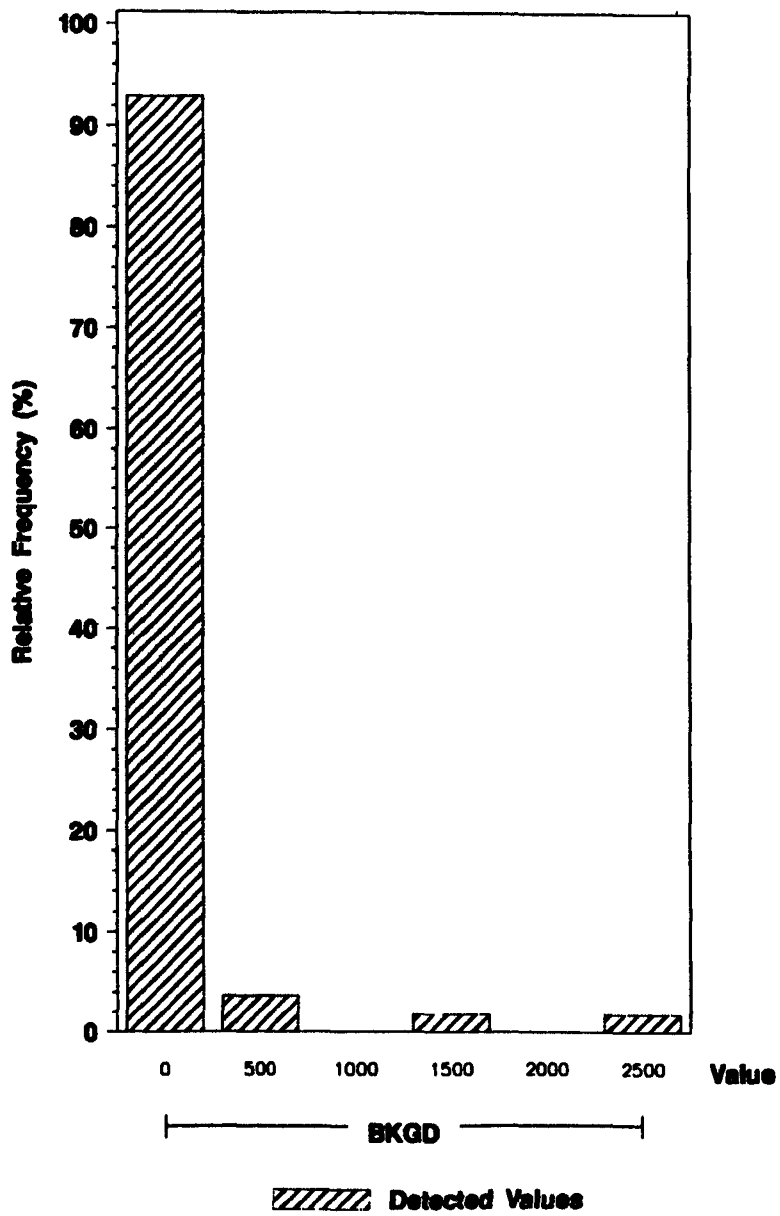
ANALYTE=STRONTIUM-90



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved TRITIUM (pCI/L) In Surface Water

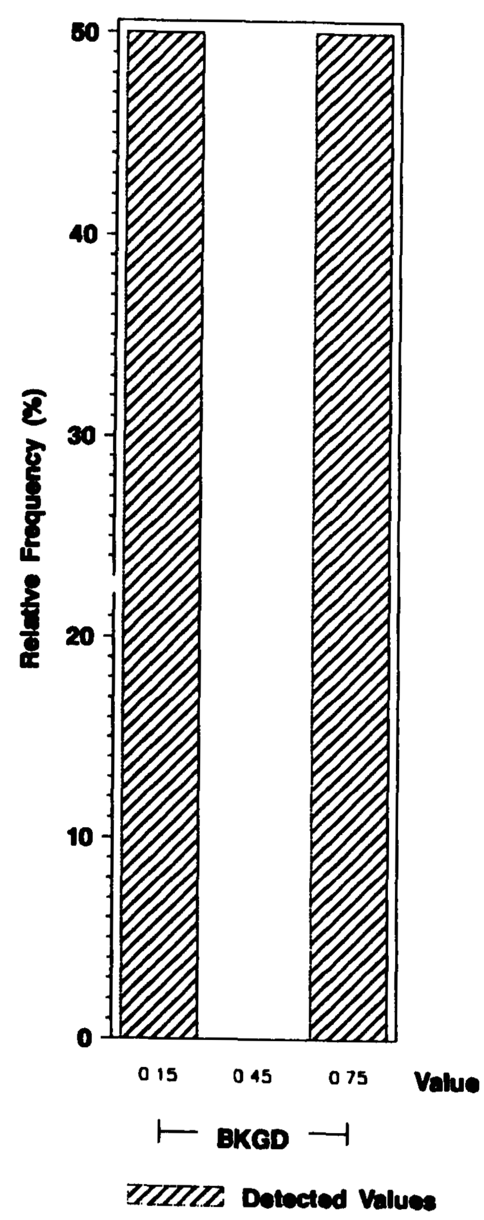
ANALYTE = TRITIUM



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved URANIUM, TOTAL (pCi/L) in Surface Water

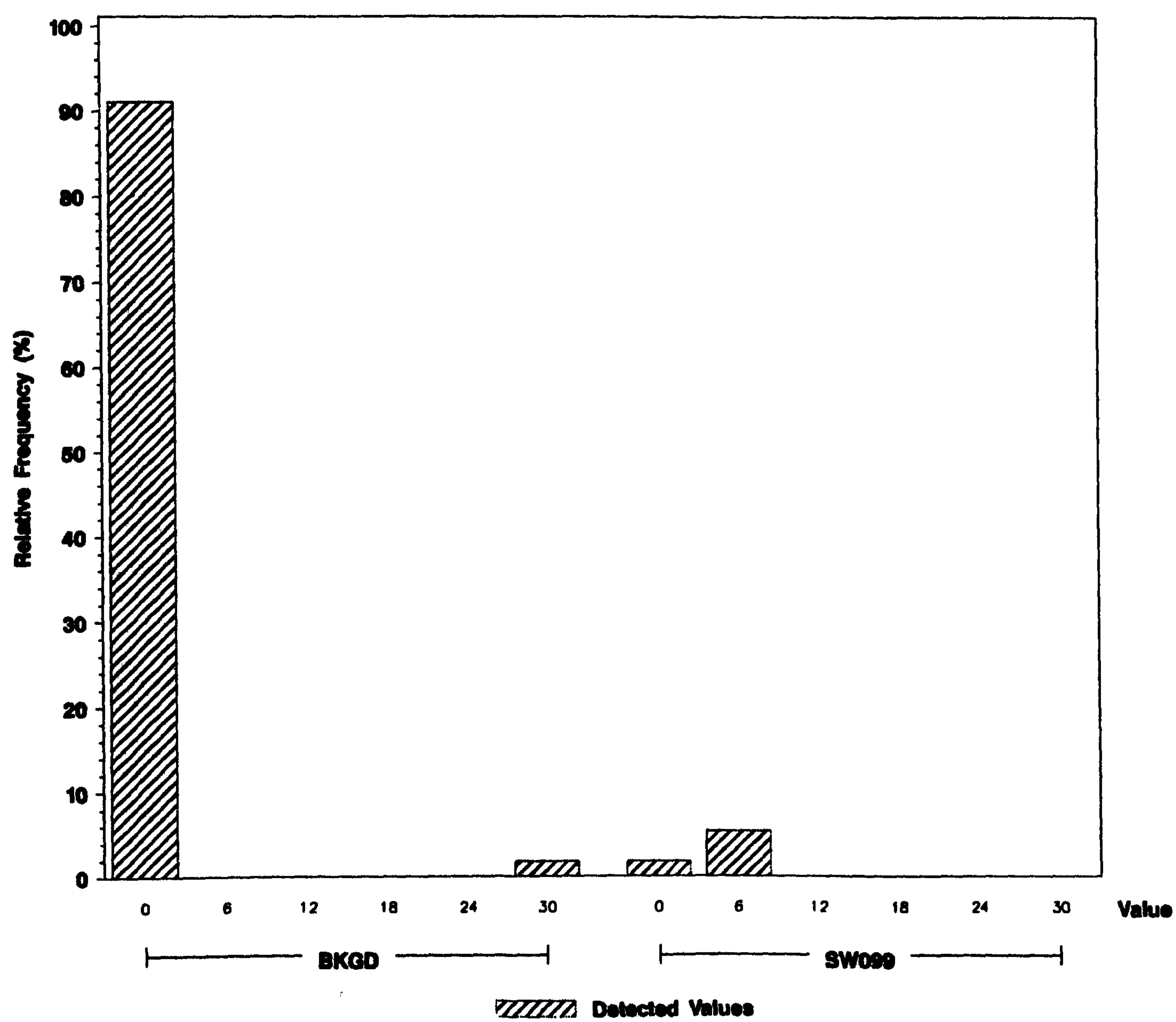
ANALYTE = URANIUM, TOTAL



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved URANIUM – 233, – 234 (pCi/L) in Surface Water

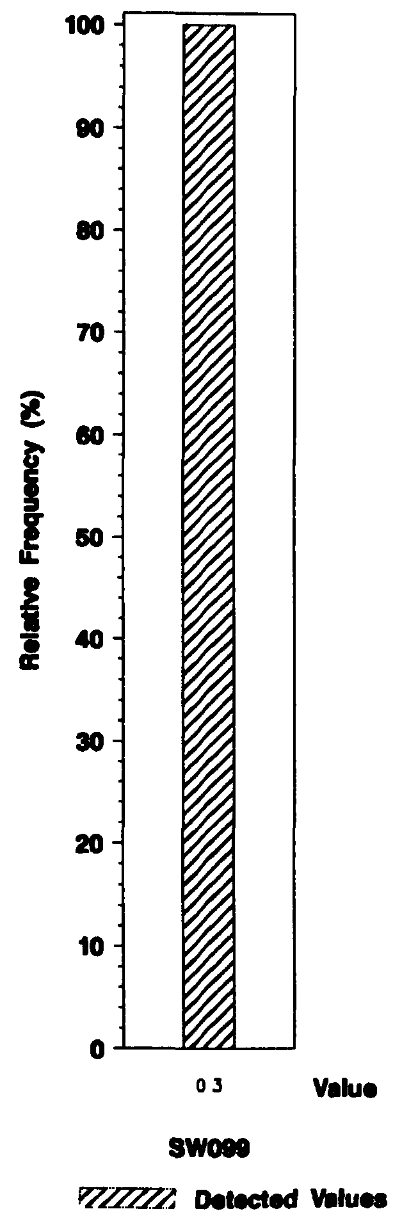
ANALYTE = URANIUM – 233, – 234



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved URANIUM – 234 (pCi/L) in Surface Water

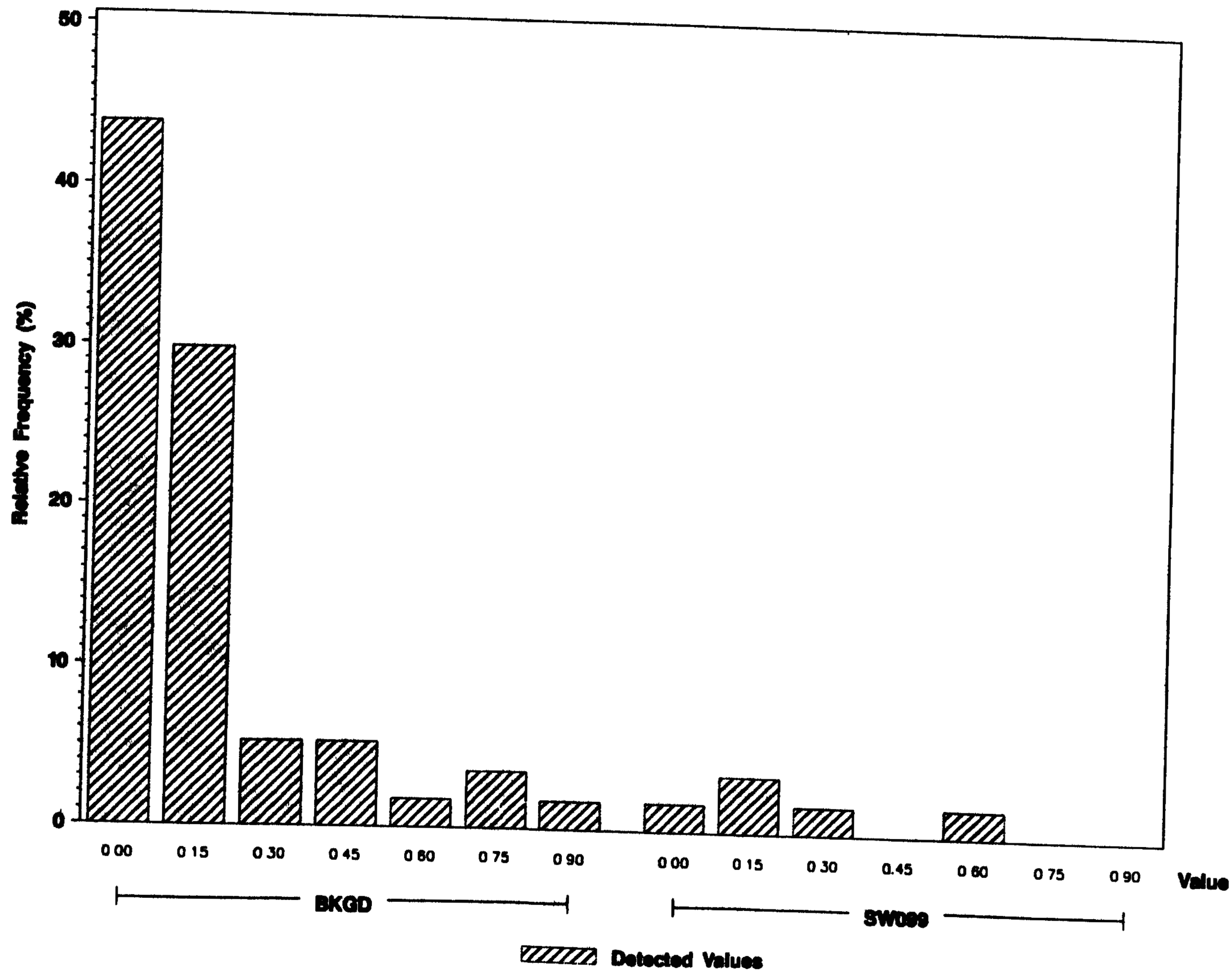
ANALYTE = URANIUM – 234



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved URANIUM-235 (pCI/L) in Surface Water

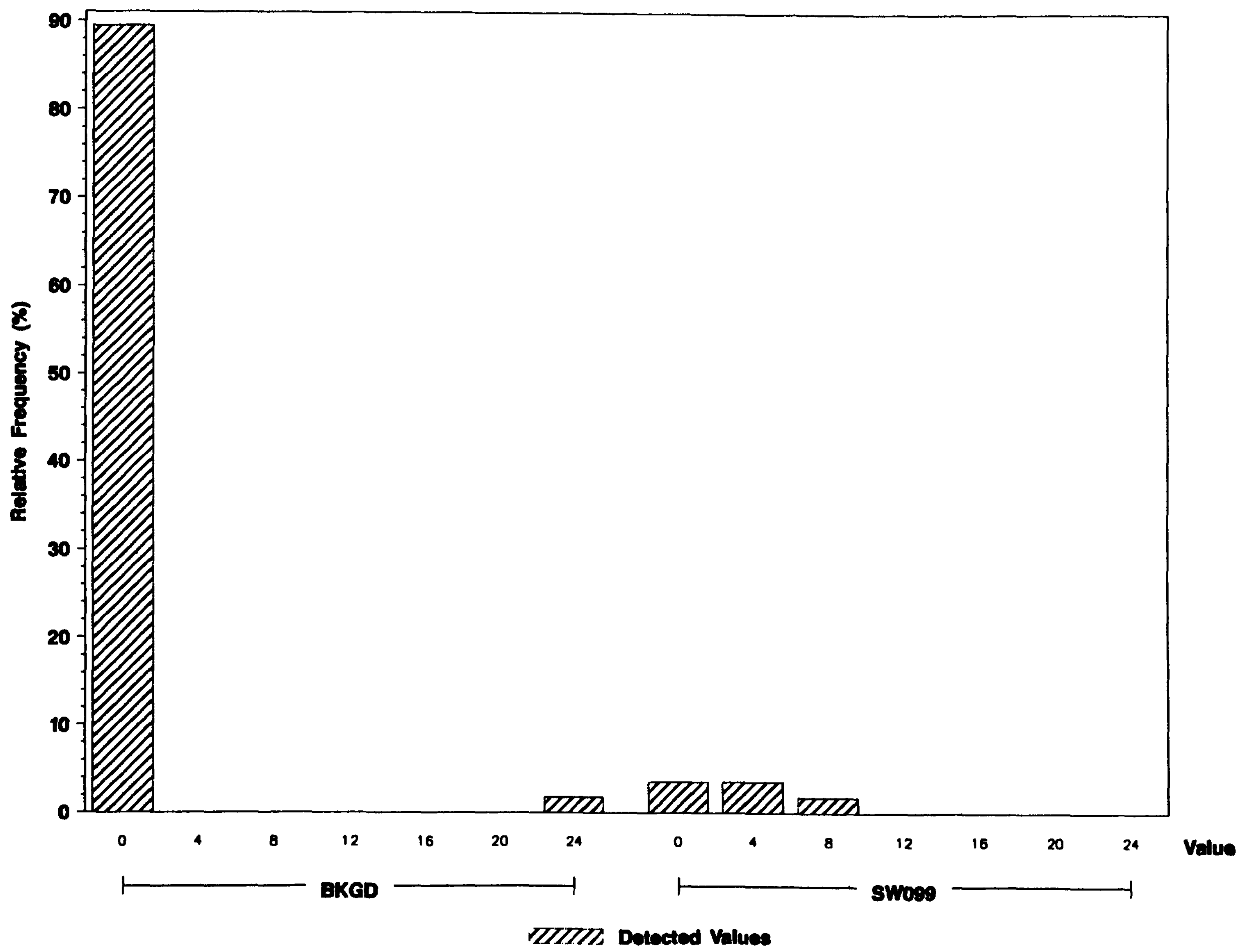
ANALYTE=URANIUM-235



Background vs OU7 Surface Water (SW099) Frequency Histogram

Dissolved URANIUM-238 (pCi/L) In Surface Water

ANALYTE=URANIUM-238



Surface Water

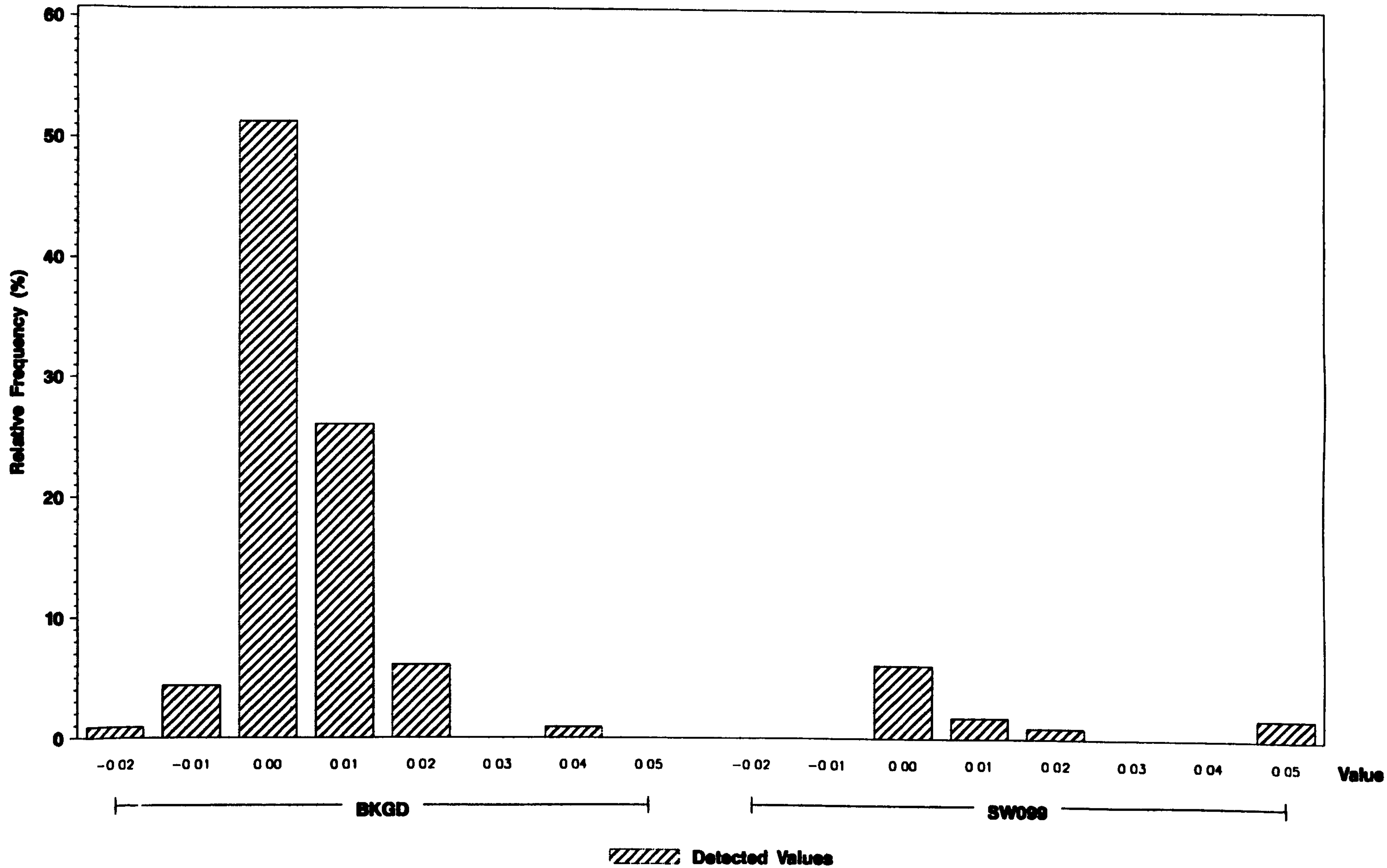
(Total)

Background vs OU 7 (SW099)

Background vs OU7 Surface Water (SW099) Frequency Histogram

Total AMERICIUM-241 (pCI/L) in Surface Water

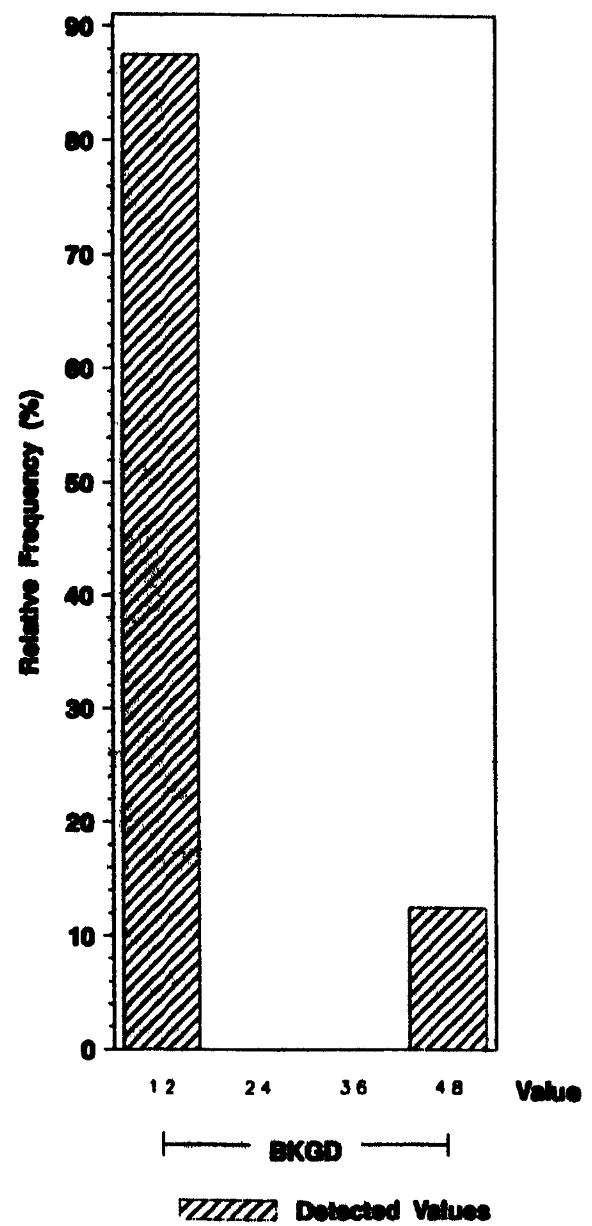
ANALYTE=AMERICIUM-241



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total CESIUM−134 (pCi/L) In Surface Water

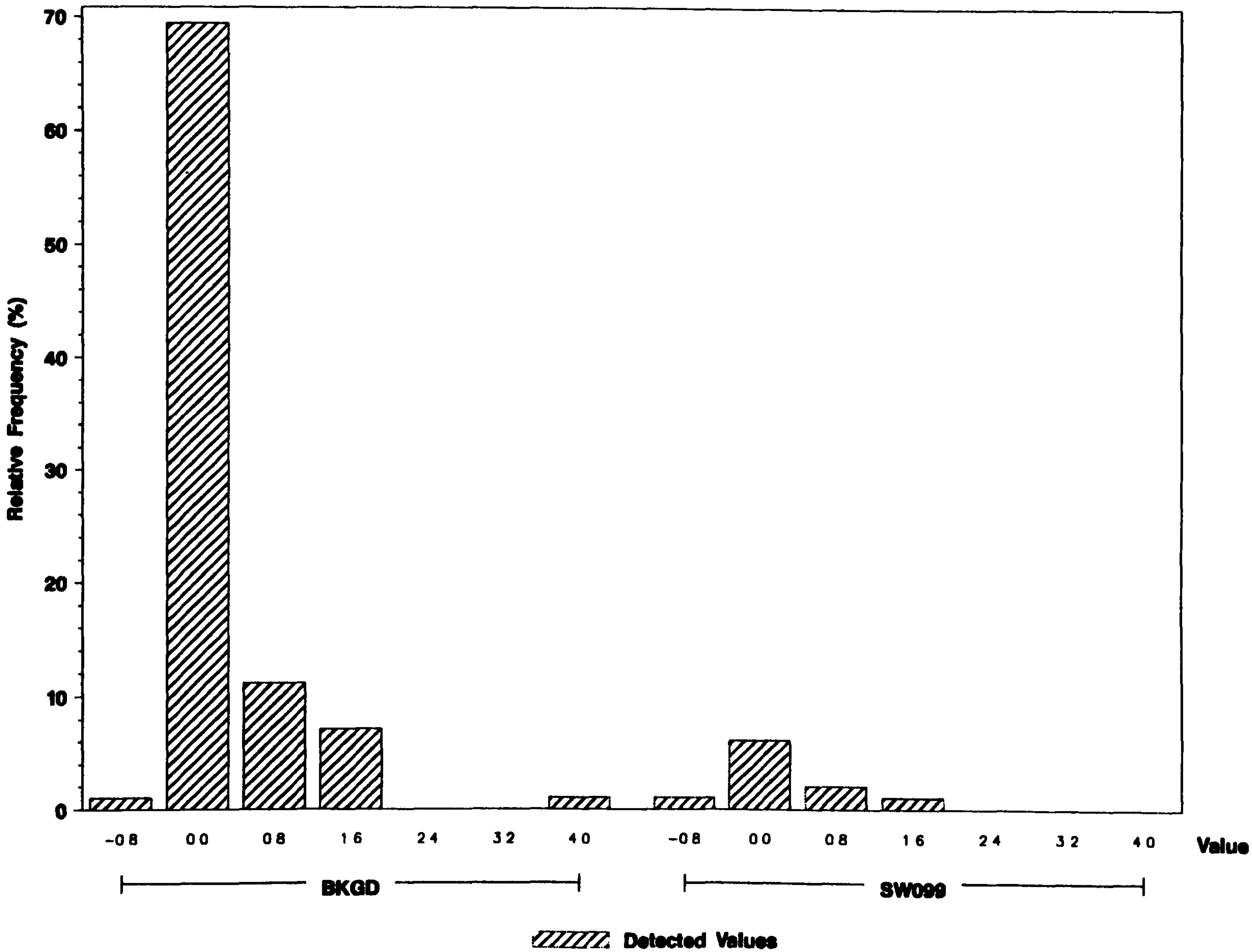
ANALYTE = CESIUM − 134



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total CESIUM – 137 (pCi/L) in Surface Water

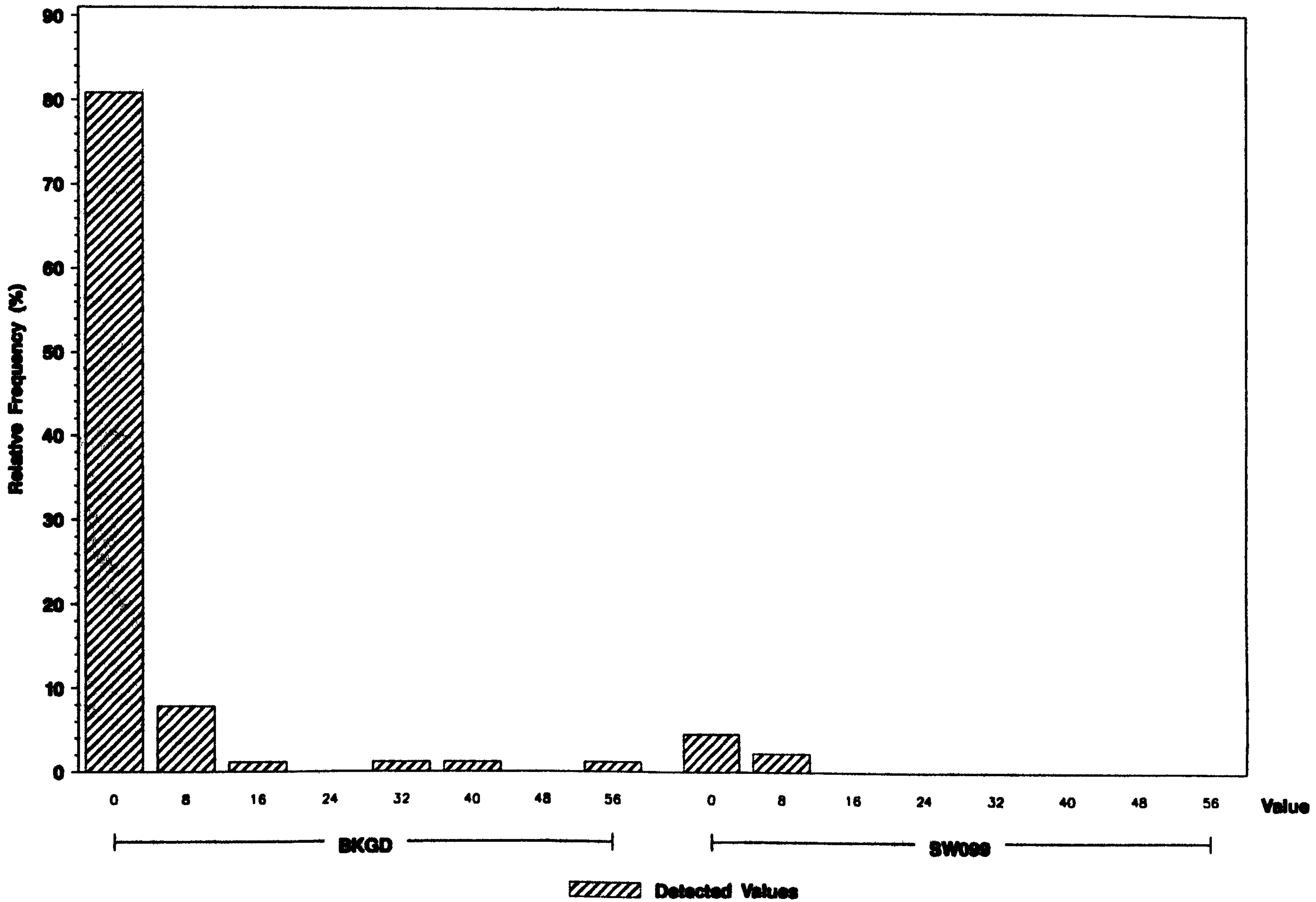
ANALYTE = CESIUM – 137



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total GROSS ALPHA (pCi/L) In Surface Water

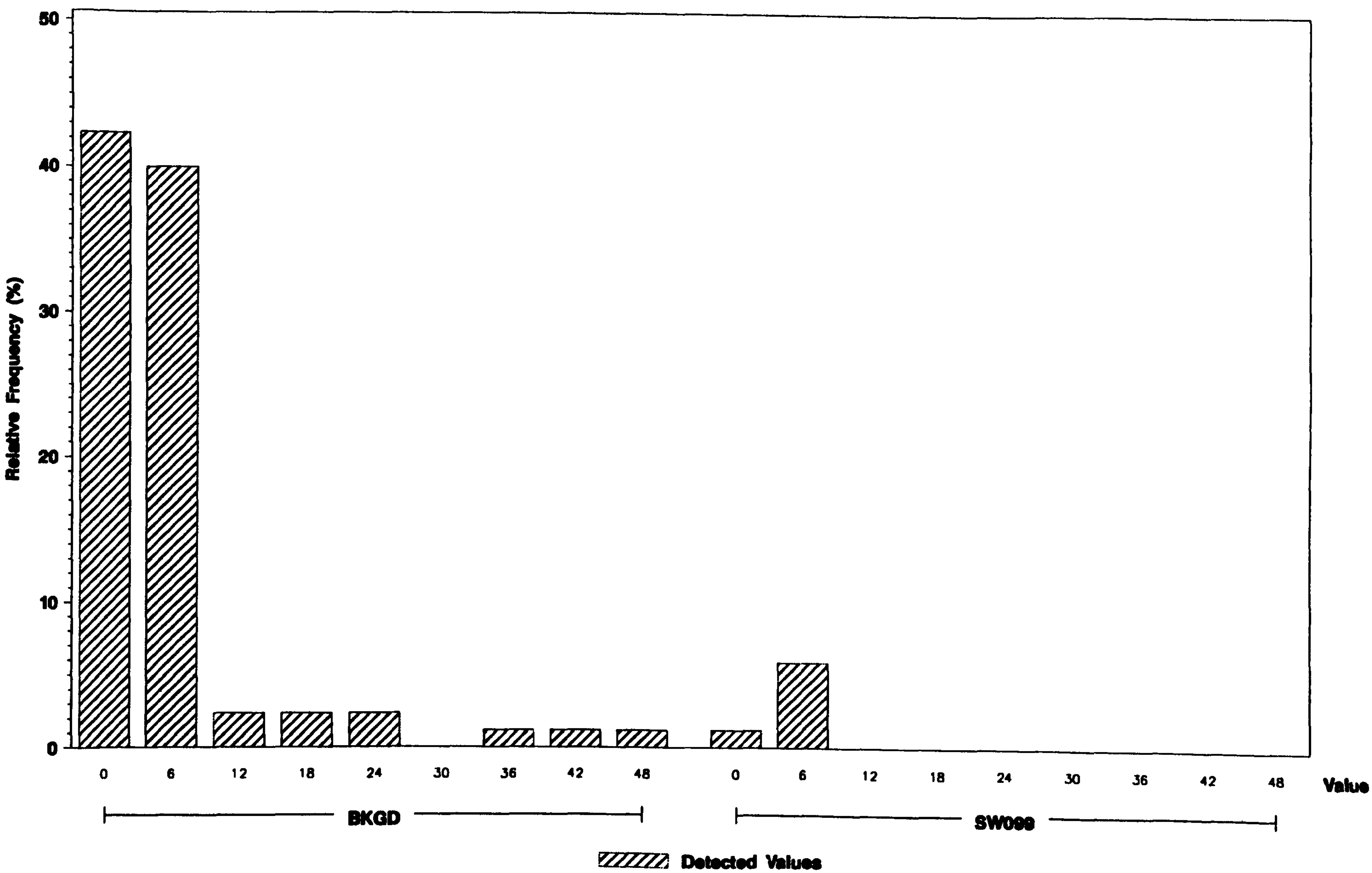
ANALYTE=GROSS ALPHA



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total GROSS BETA (pCi/L) in Surface Water

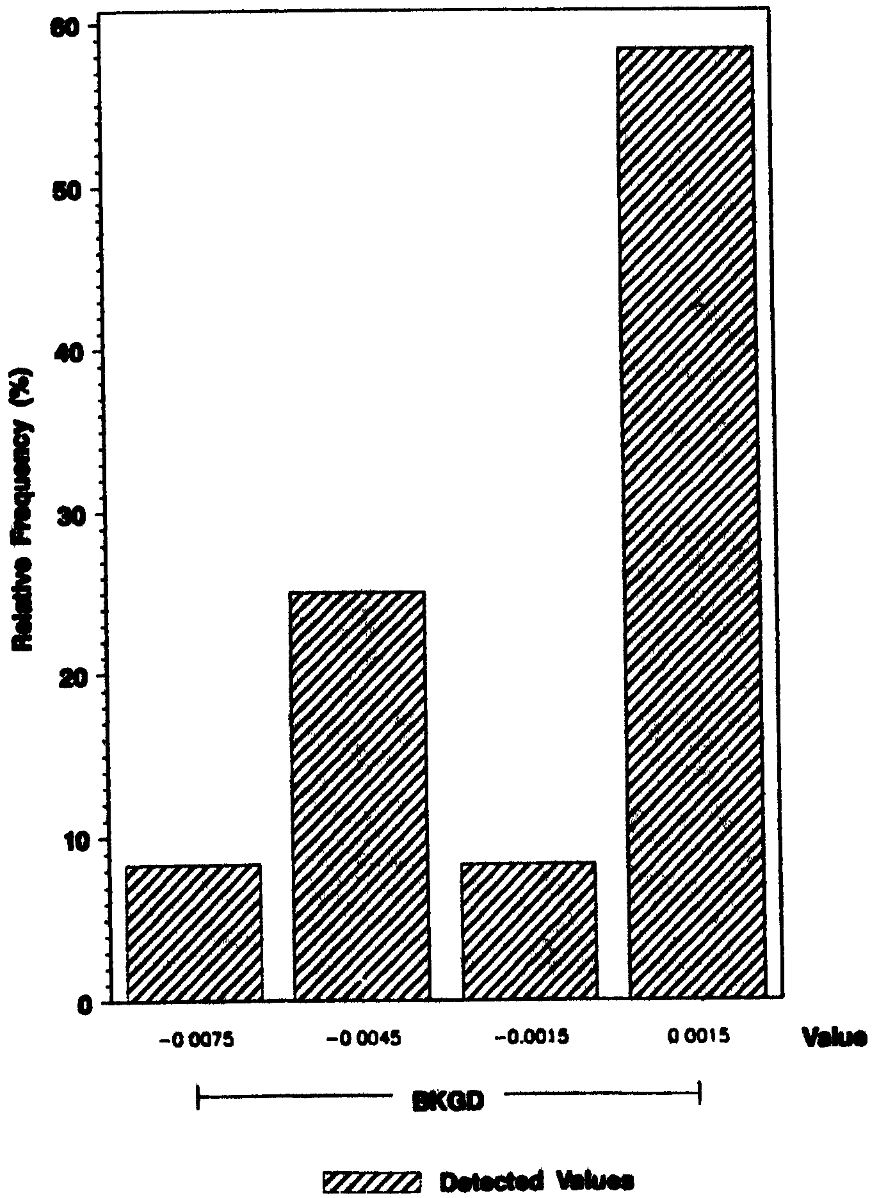
ANALYTE=GROSS BETA



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total PLUTONIUM – 236 (pCi/L) in Surface Water

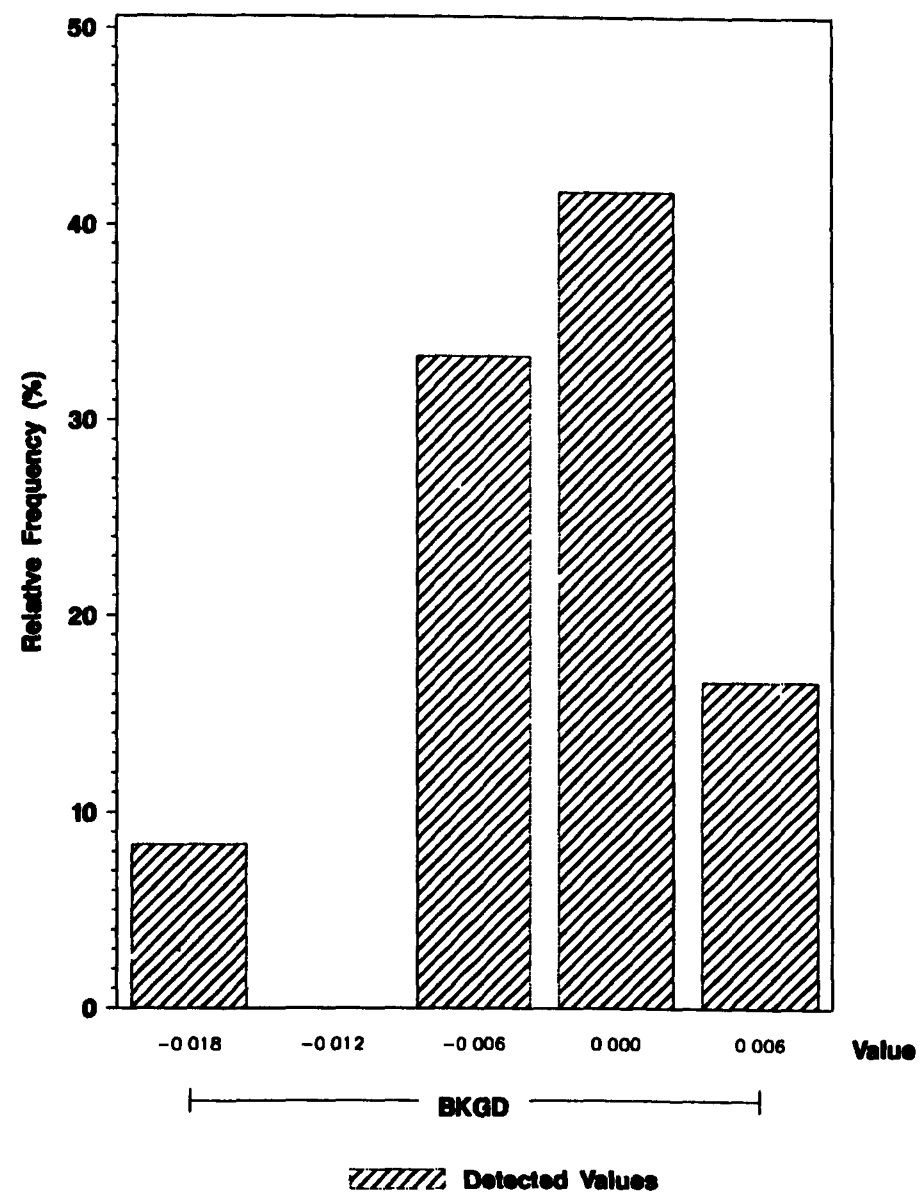
ANALYTE = PLUTONIUM – 236



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total PLUTONIUM – 238 (pCi/L) In Surface Water

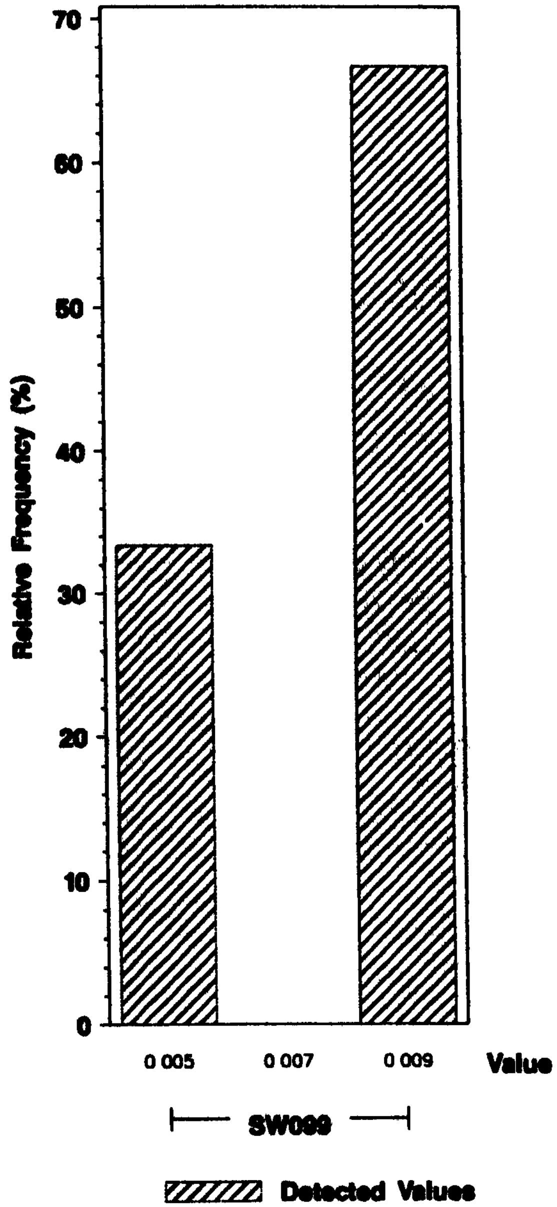
ANALYTE = PLUTONIUM – 238



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total PLUTONIUM – 239 (pCi/L) In Surface Water

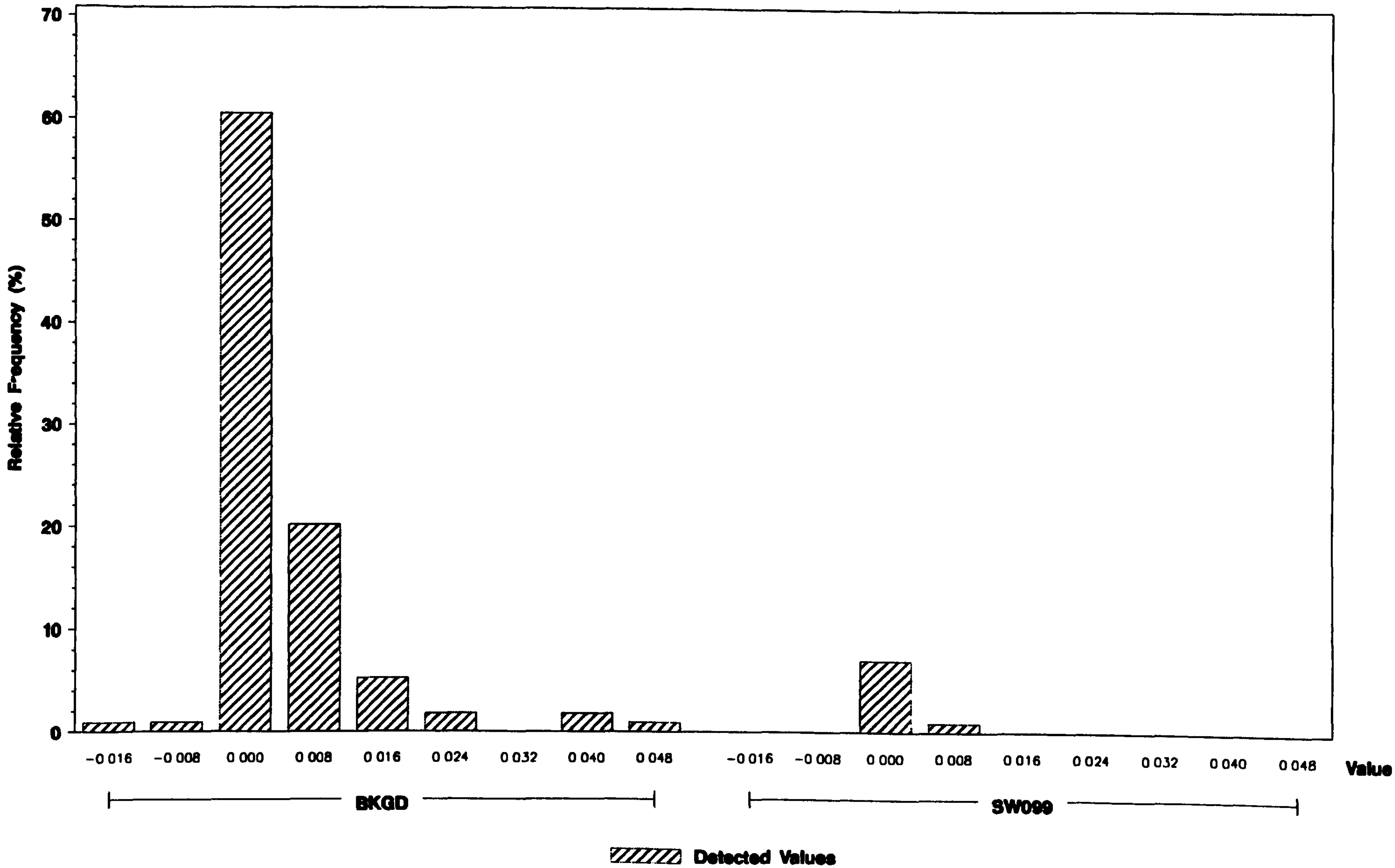
ANALYTE = PLUTONIUM – 239



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total PLUTONIUM-239/240 (pCi/L) in Surface Water

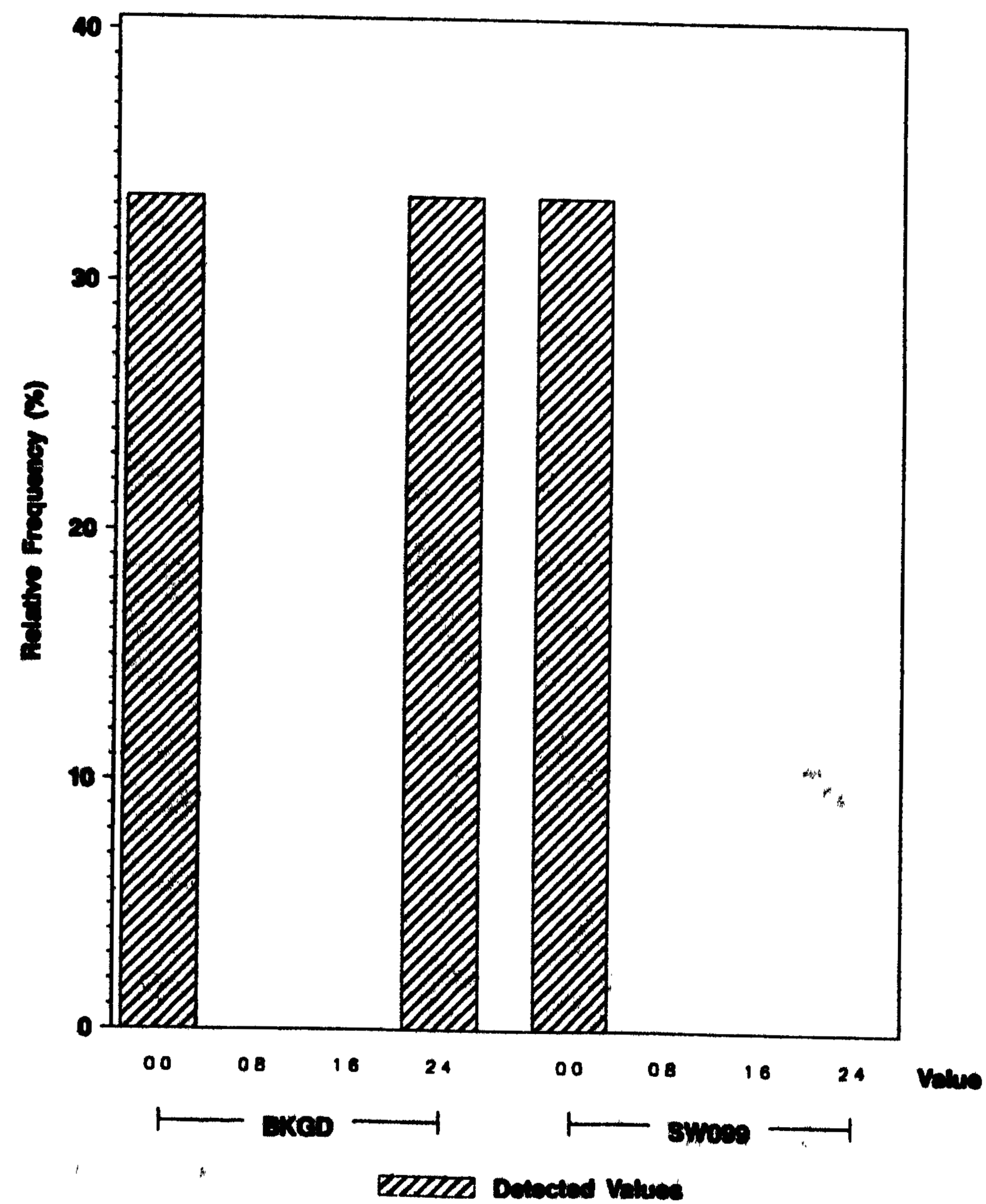
ANALYTE=PLUTONIUM-239/240



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total RADIUM-226 (pCi/L) in Surface Water

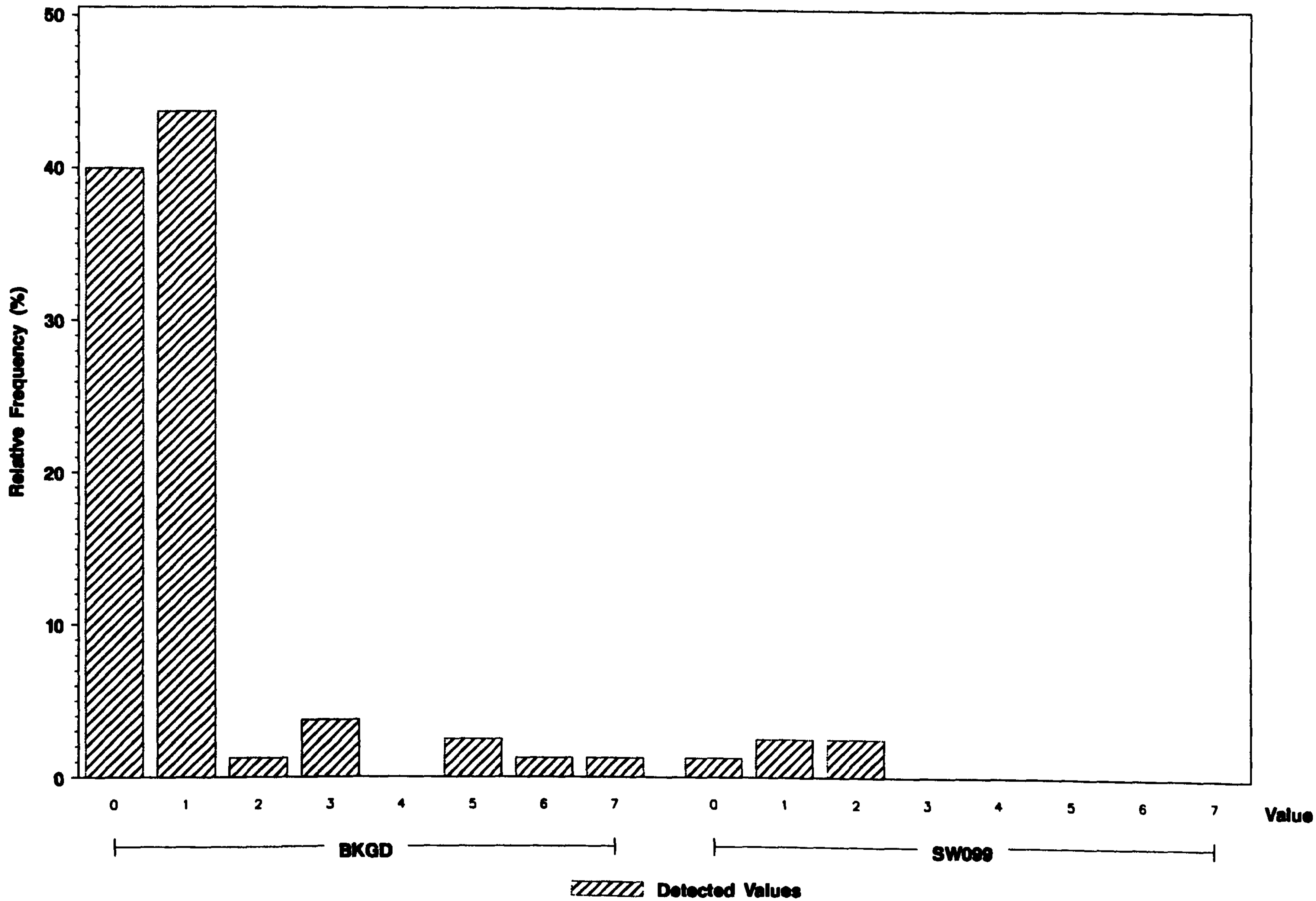
ANALYTE=RADIUM-226



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total STRONTIUM – 89,90 (pCi/L) in Surface Water

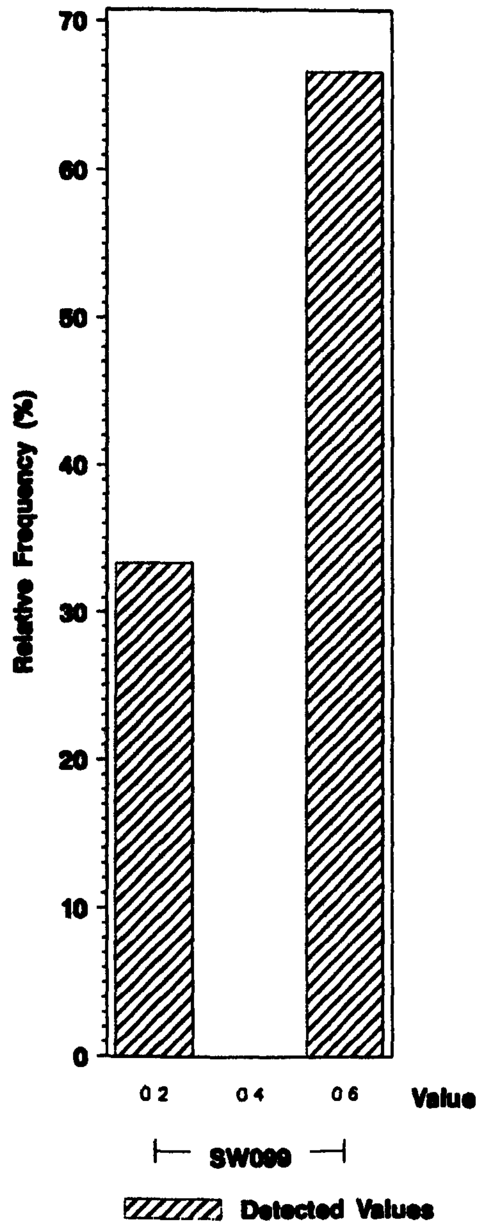
ANALYTE = STRONTIUM – 89,90



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total STRONTIUM – 90 (pCI/L) in Surface Water

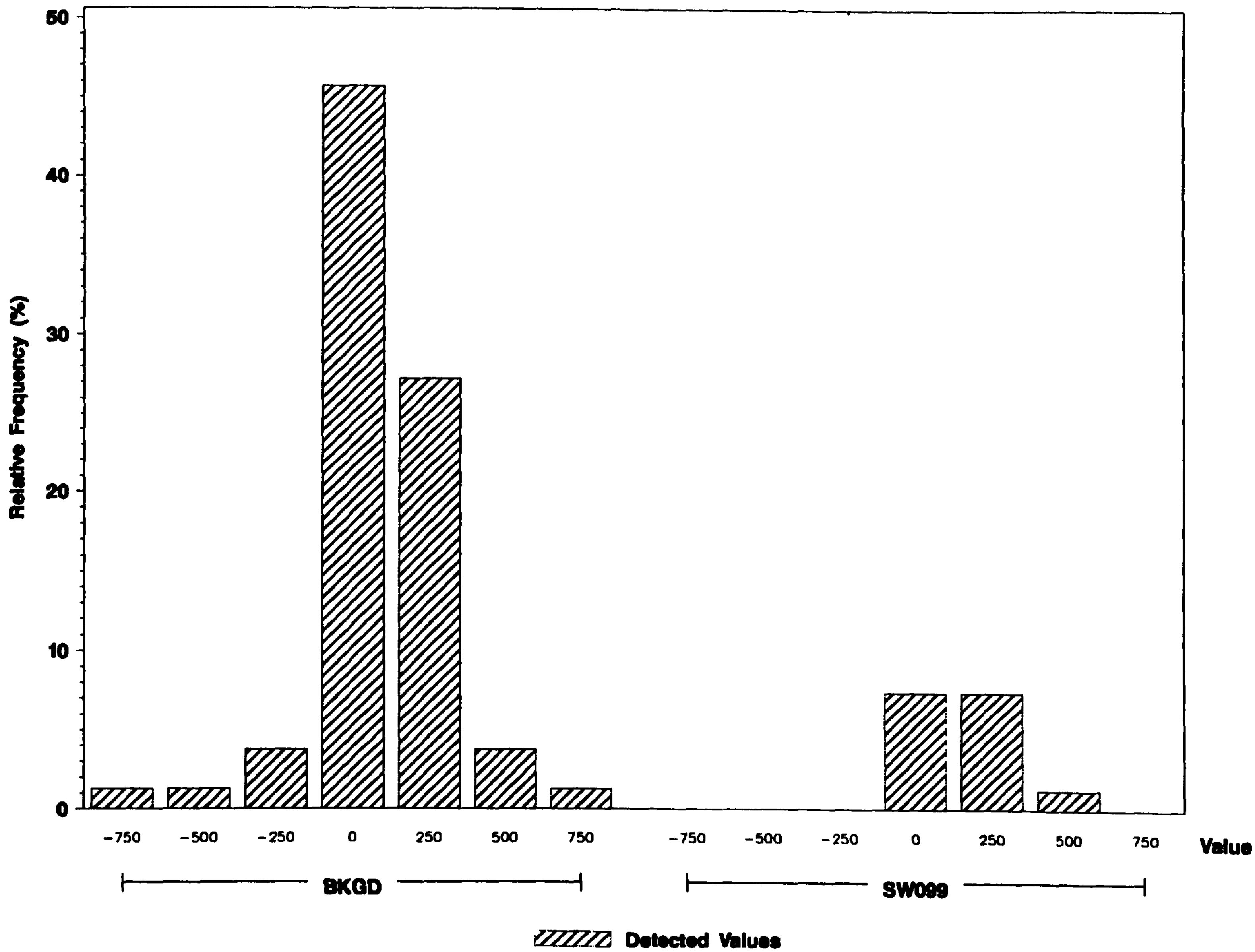
ANALYTE = STRONTIUM – 90



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total TRITIUM (pCi/L) in Surface Water

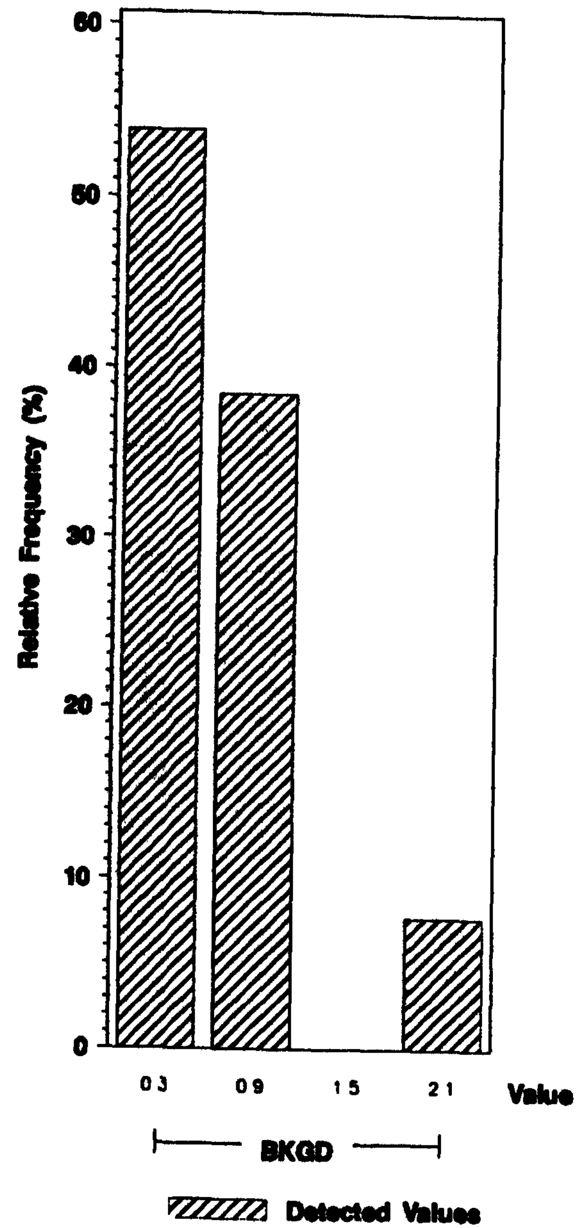
ANALYTE = TRITIUM



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total URANIUM, TOTAL (pCI/L) in Surface Water

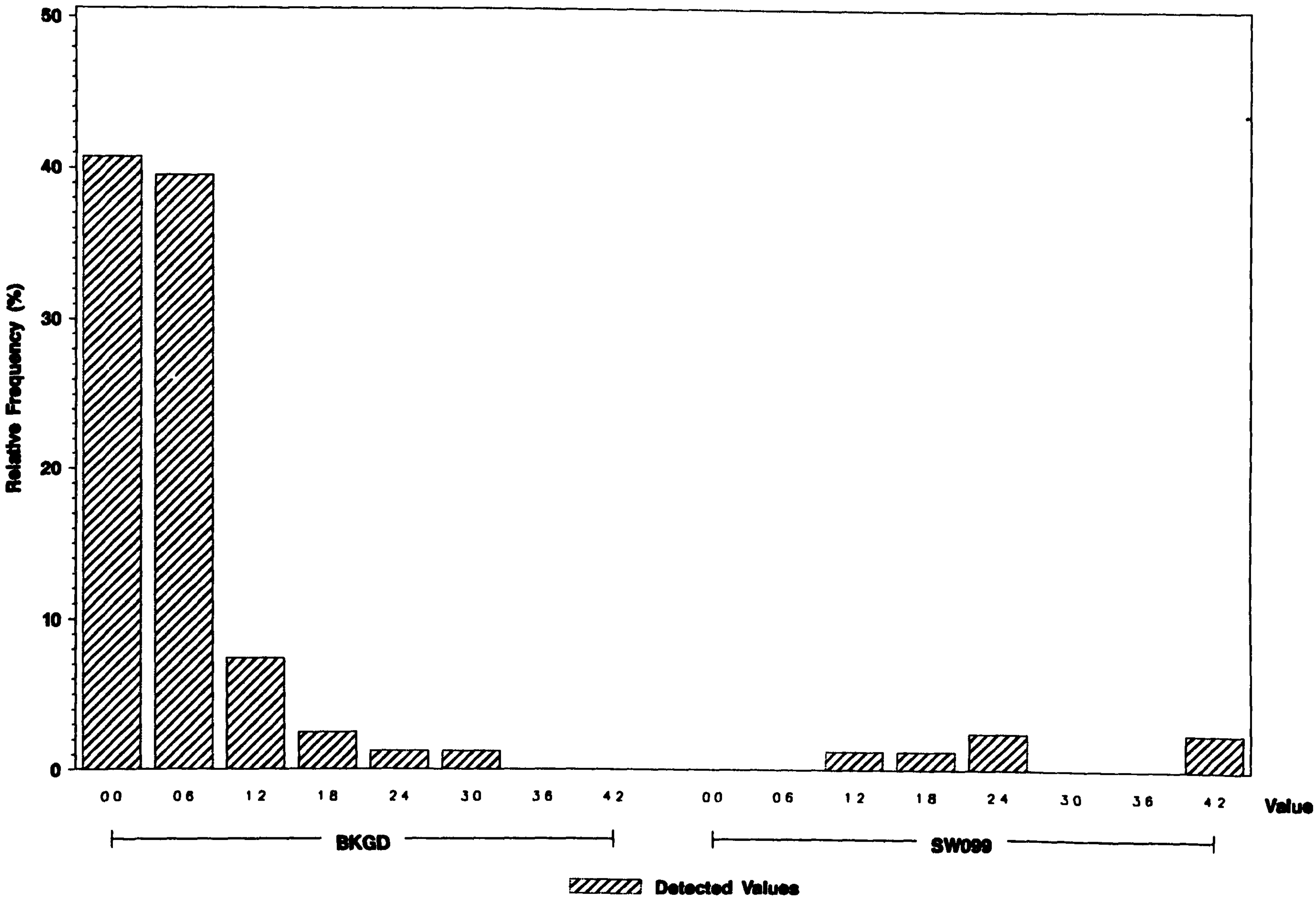
ANALYTE=URANIUM, TOTAL



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total URANIUM – 233, – 234 (pCi/L) in Surface Water

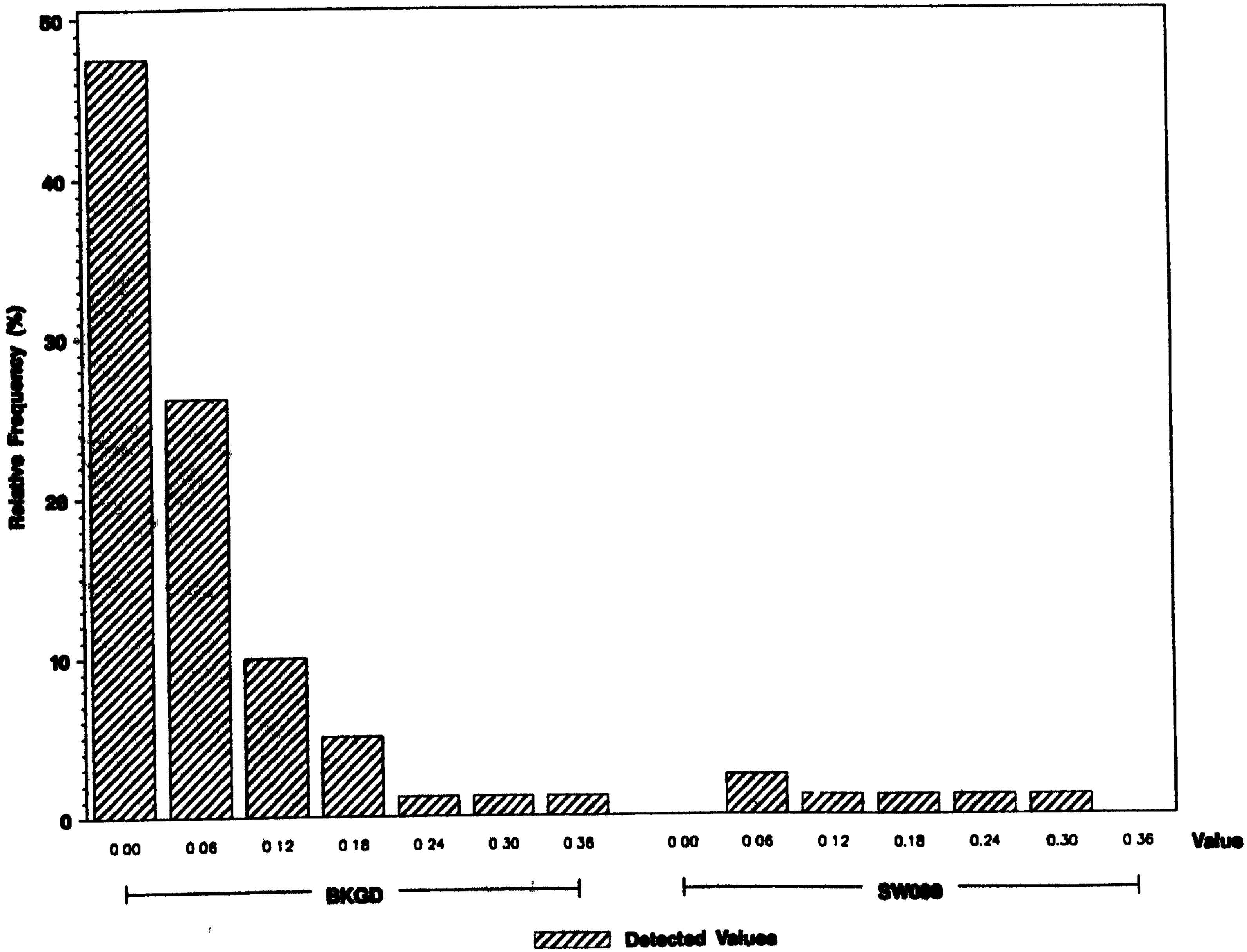
ANALYTE = URANIUM – 233, – 234



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total URANIUM-235 (pCi/L) In Surface Water

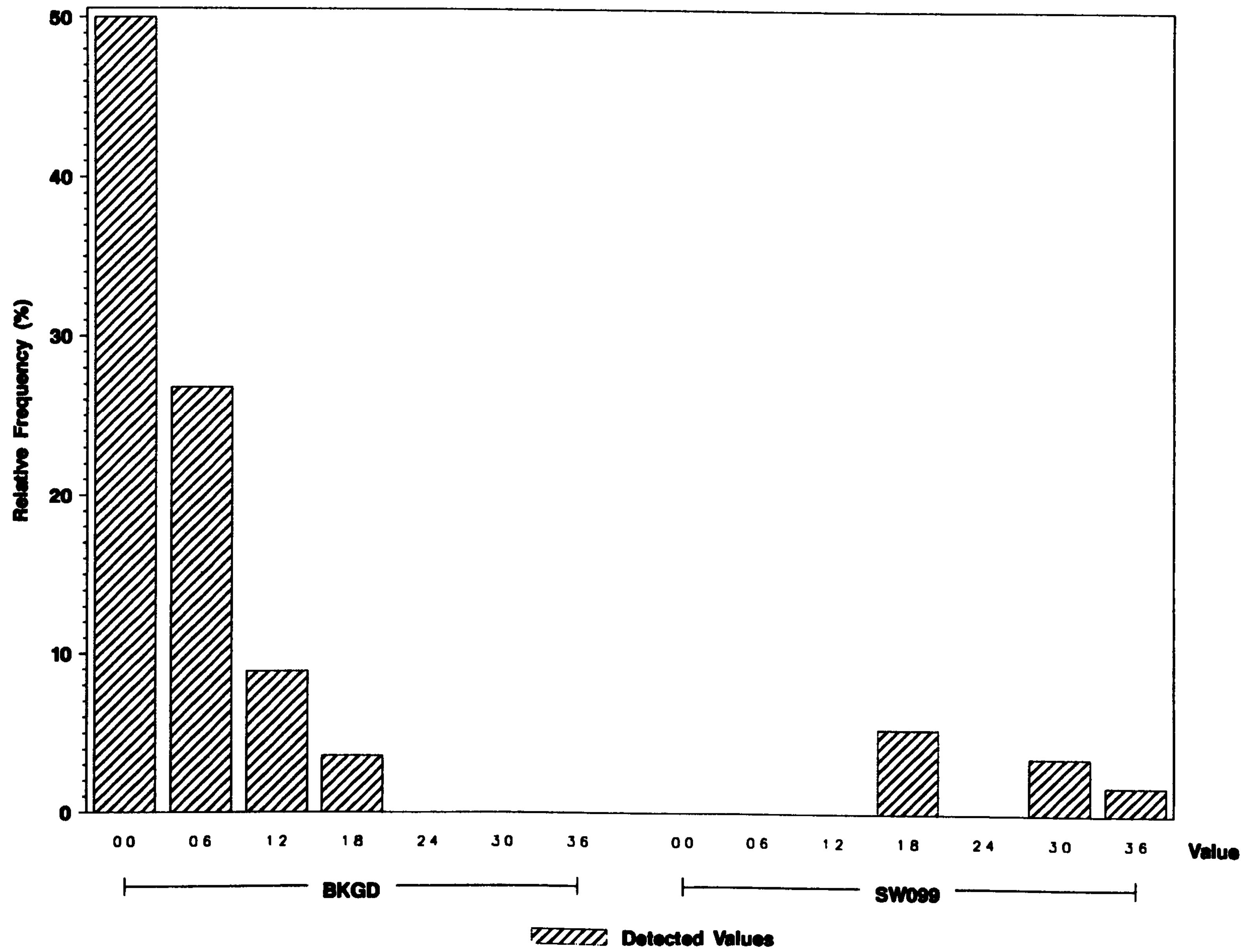
ANALYTE=URANIUM-235



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total URANIUM – 238 (pCI/L) in Surface Water

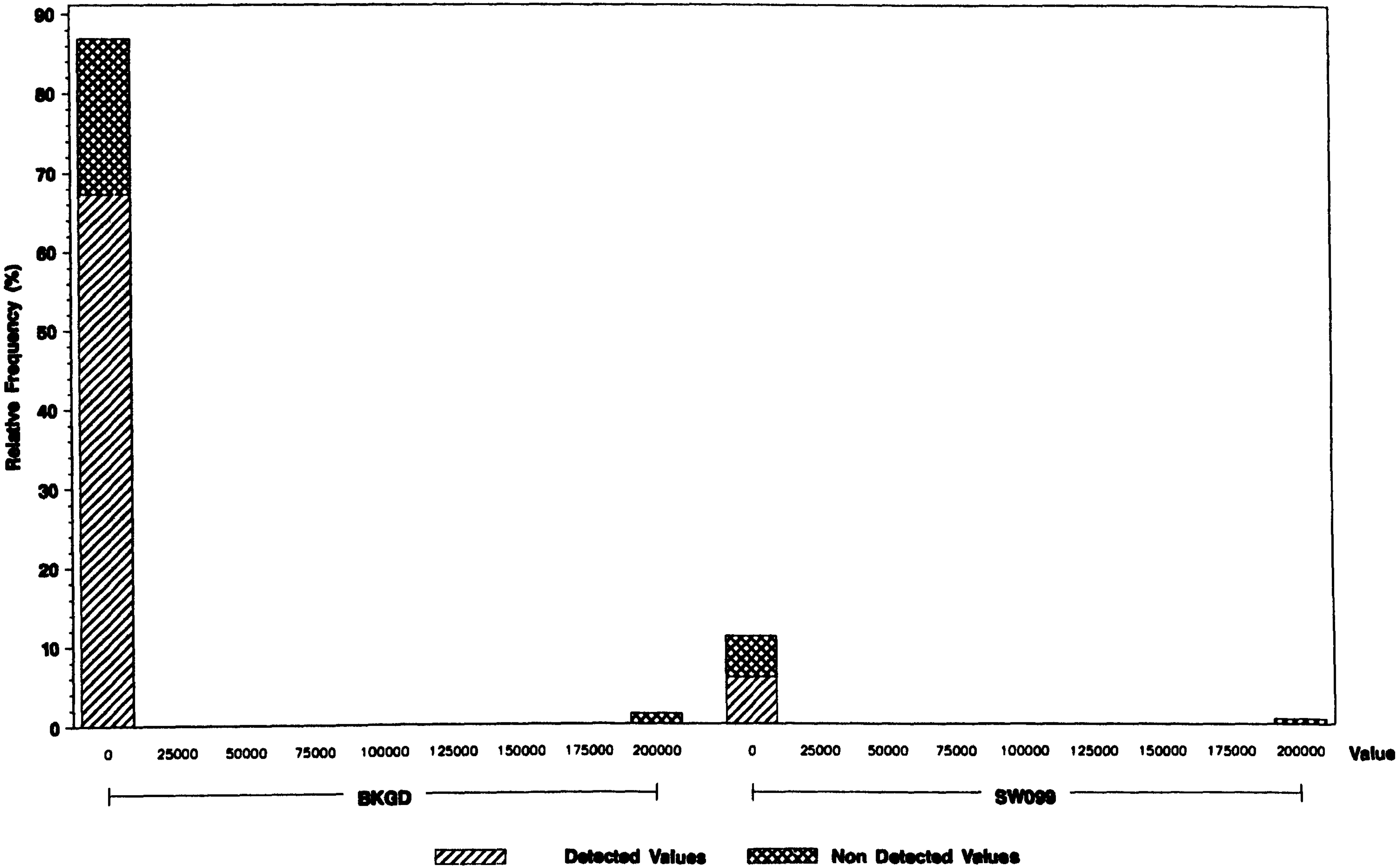
ANALYTE = URANIUM – 238



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total ALUMINUM (ug/L) in Surface Water

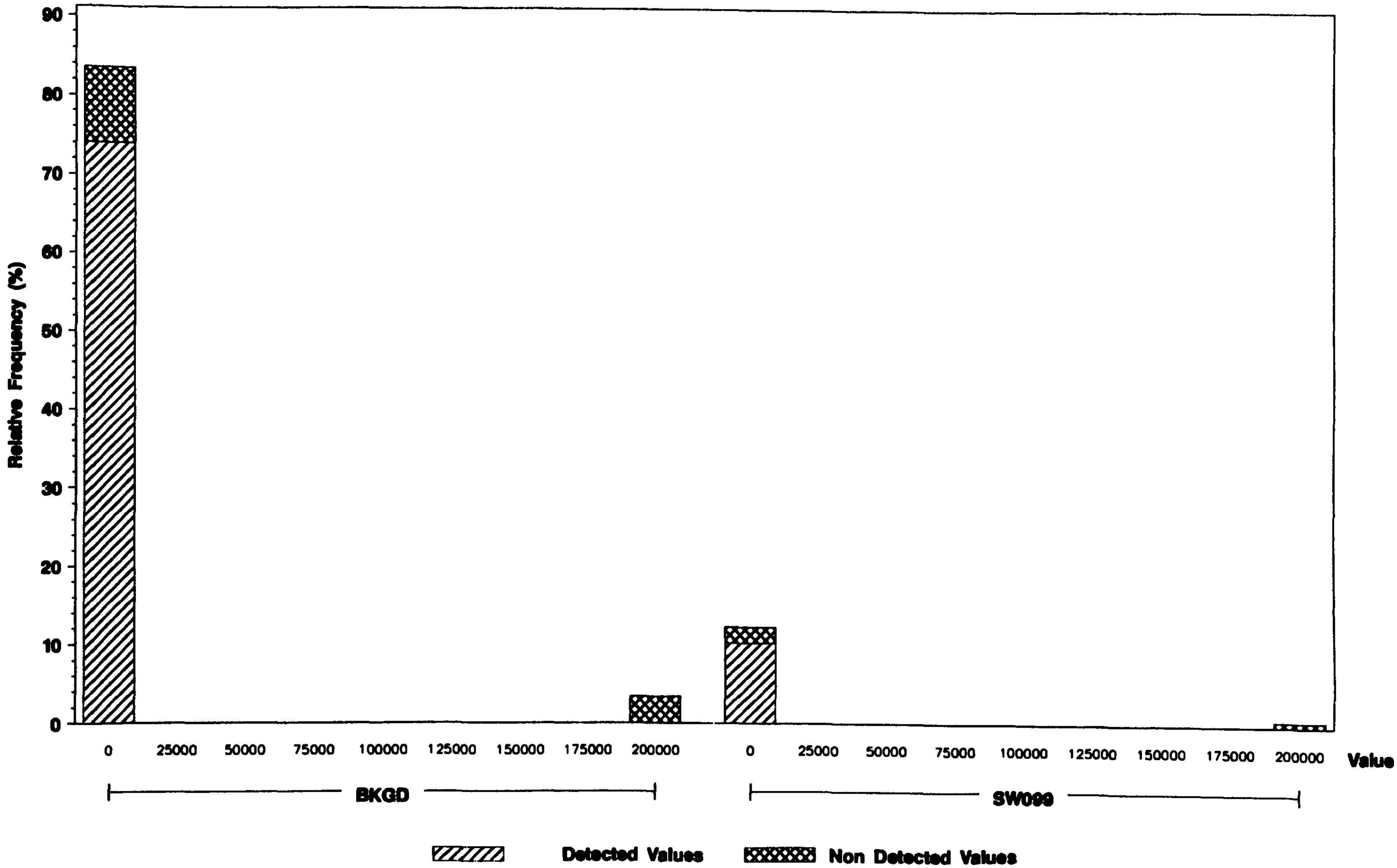
ANALYTE=ALUMINUM



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total BARIUM (ug/L) in Surface Water

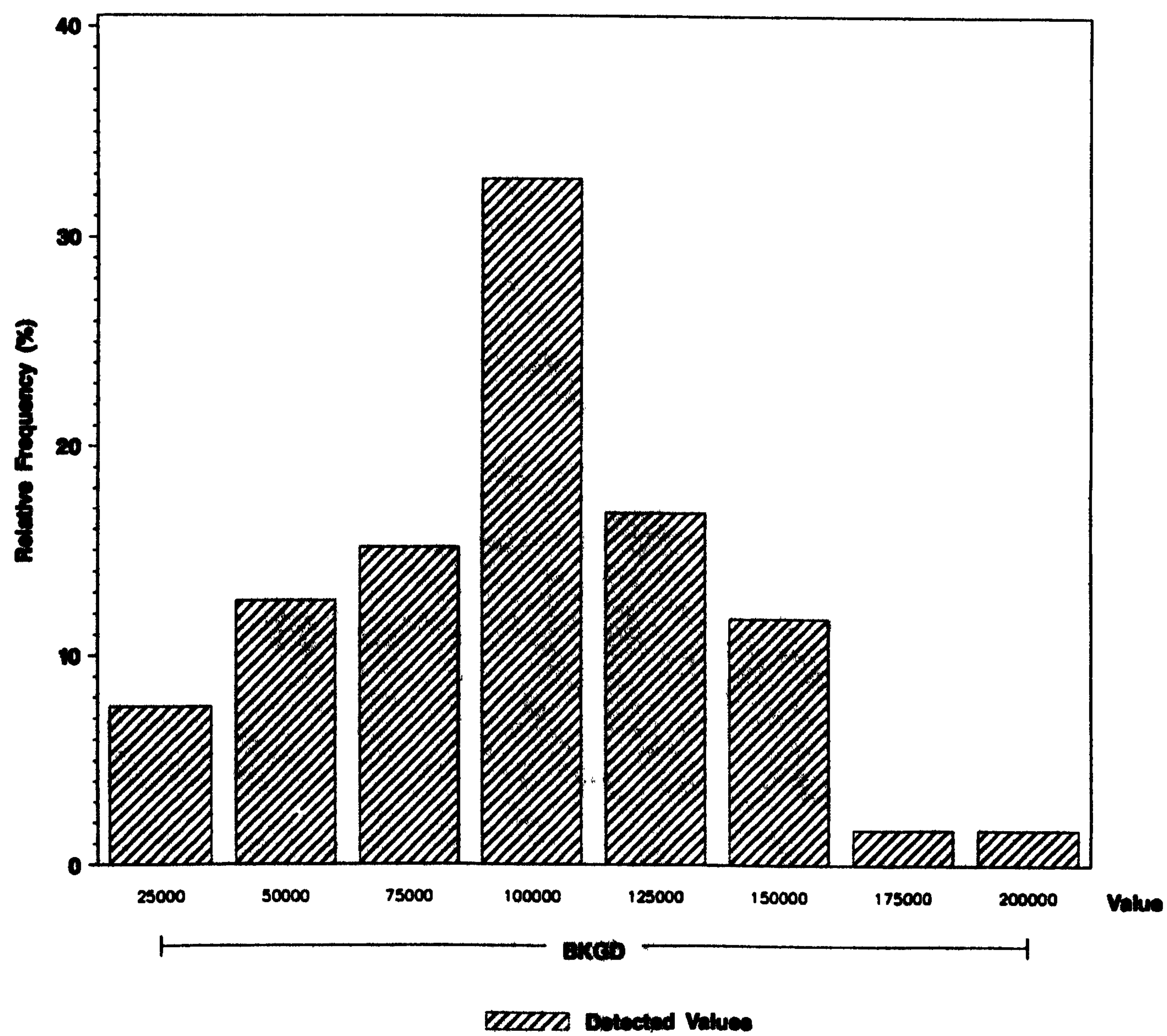
ANALYTE=BARIUM



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total BICARBONATE (ug/L) In Surface Water

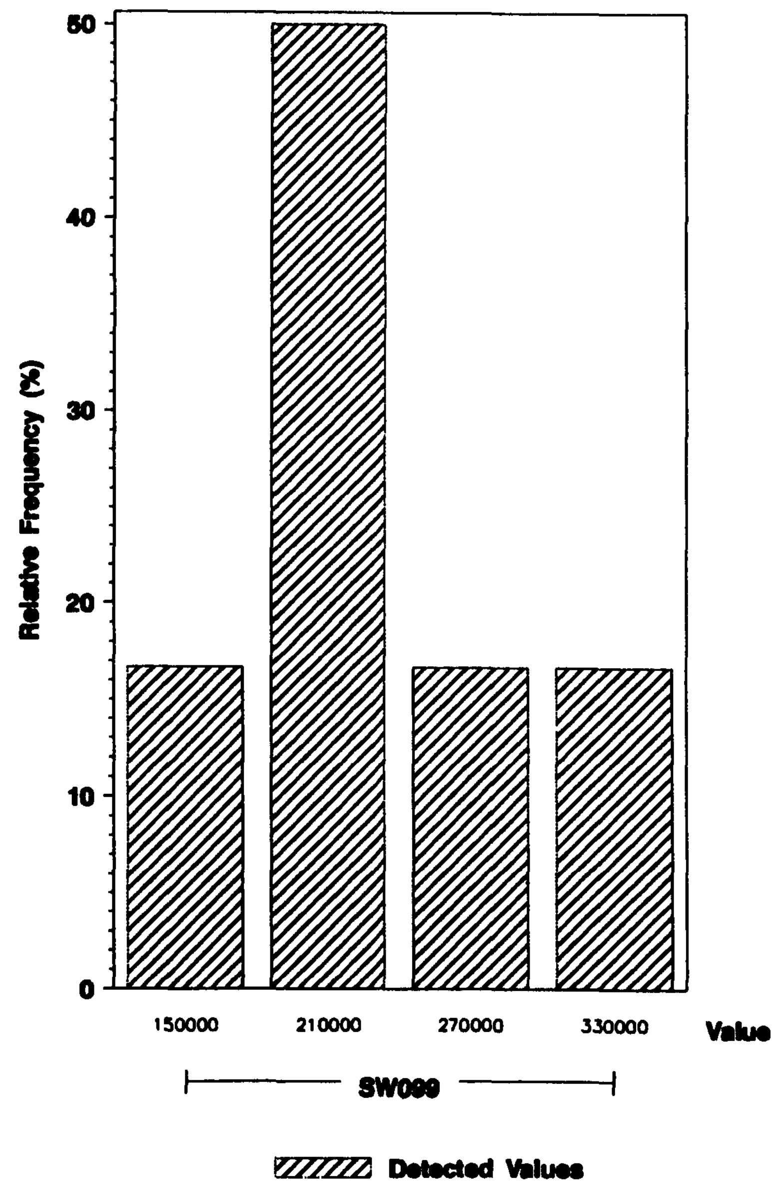
ANALYTE=BICARBONATE



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total BICARBONATE AS CACO3 (ug/L) in Surface Water

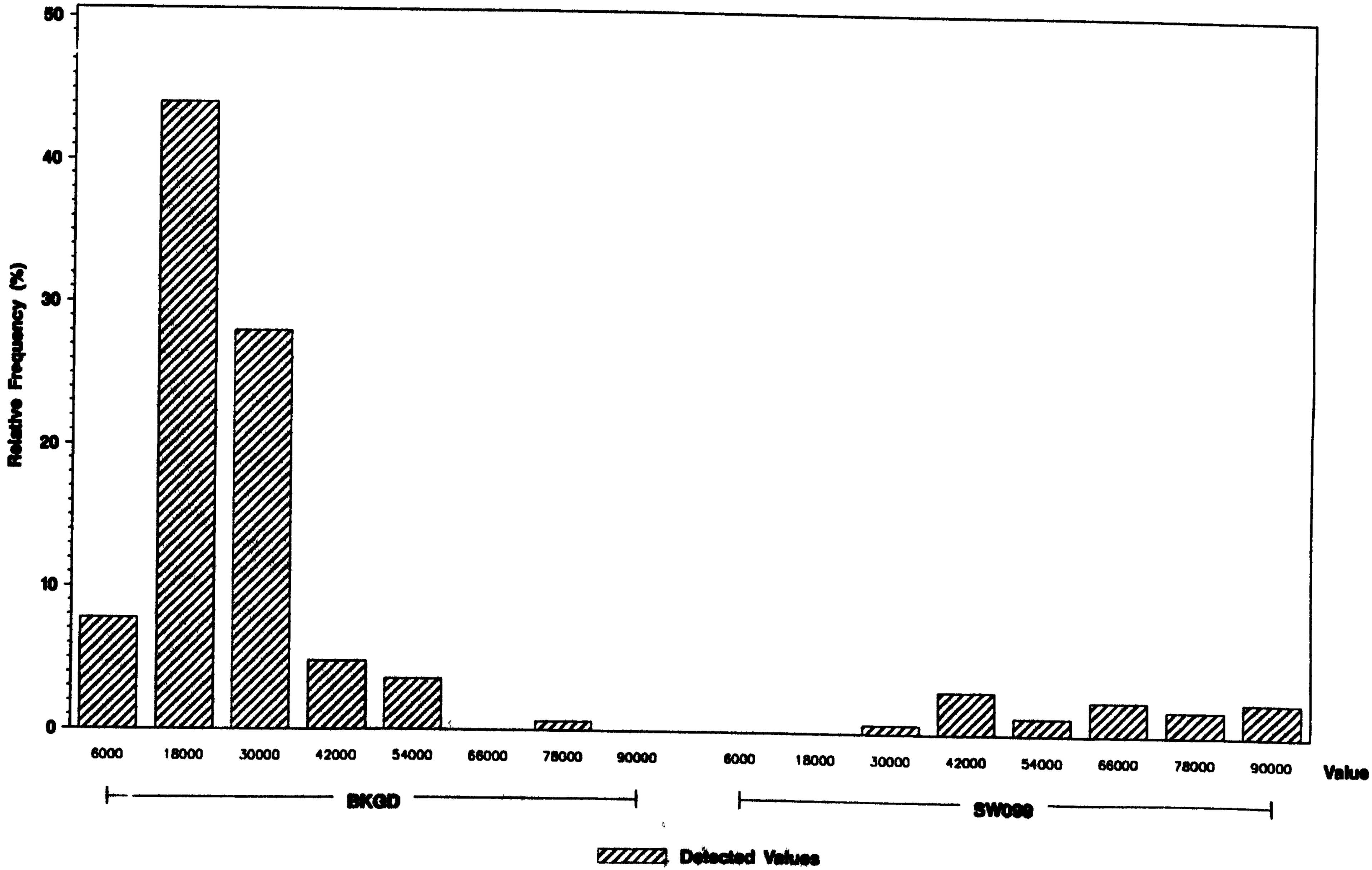
ANALYTE=BICARBONATE AS CACO3



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total CALCIUM (ug/L) In Surface Water

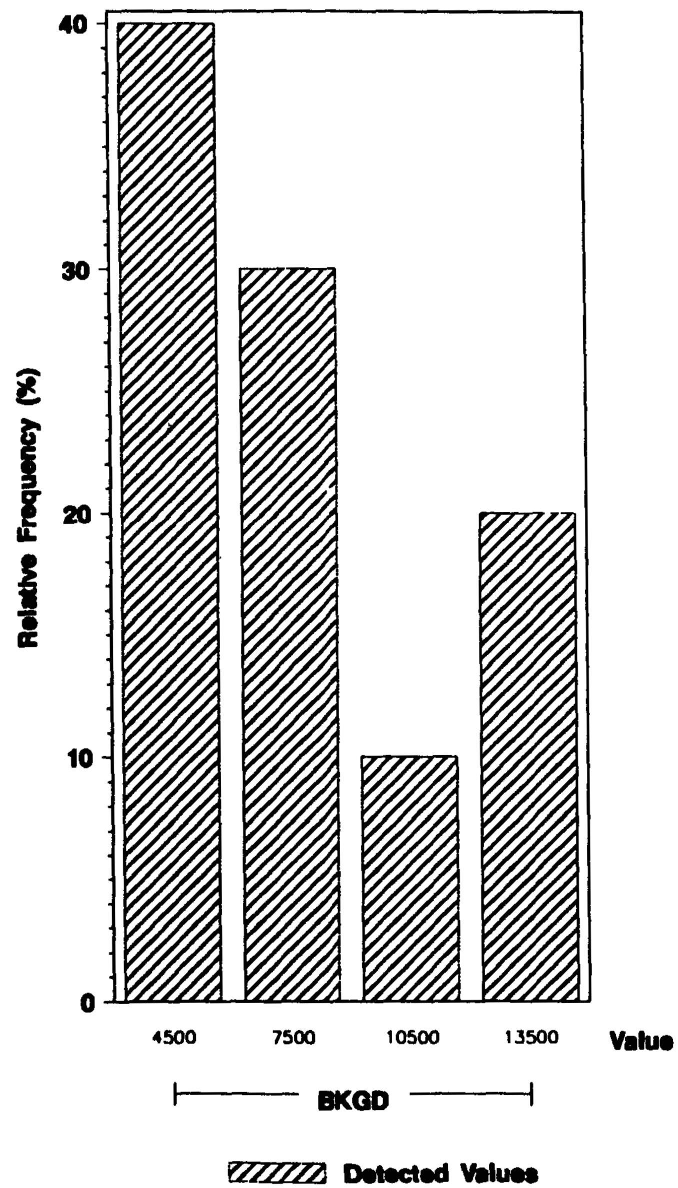
ANALYTE=CALCIUM



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total CBOD5 (ug/L) in Surface Water

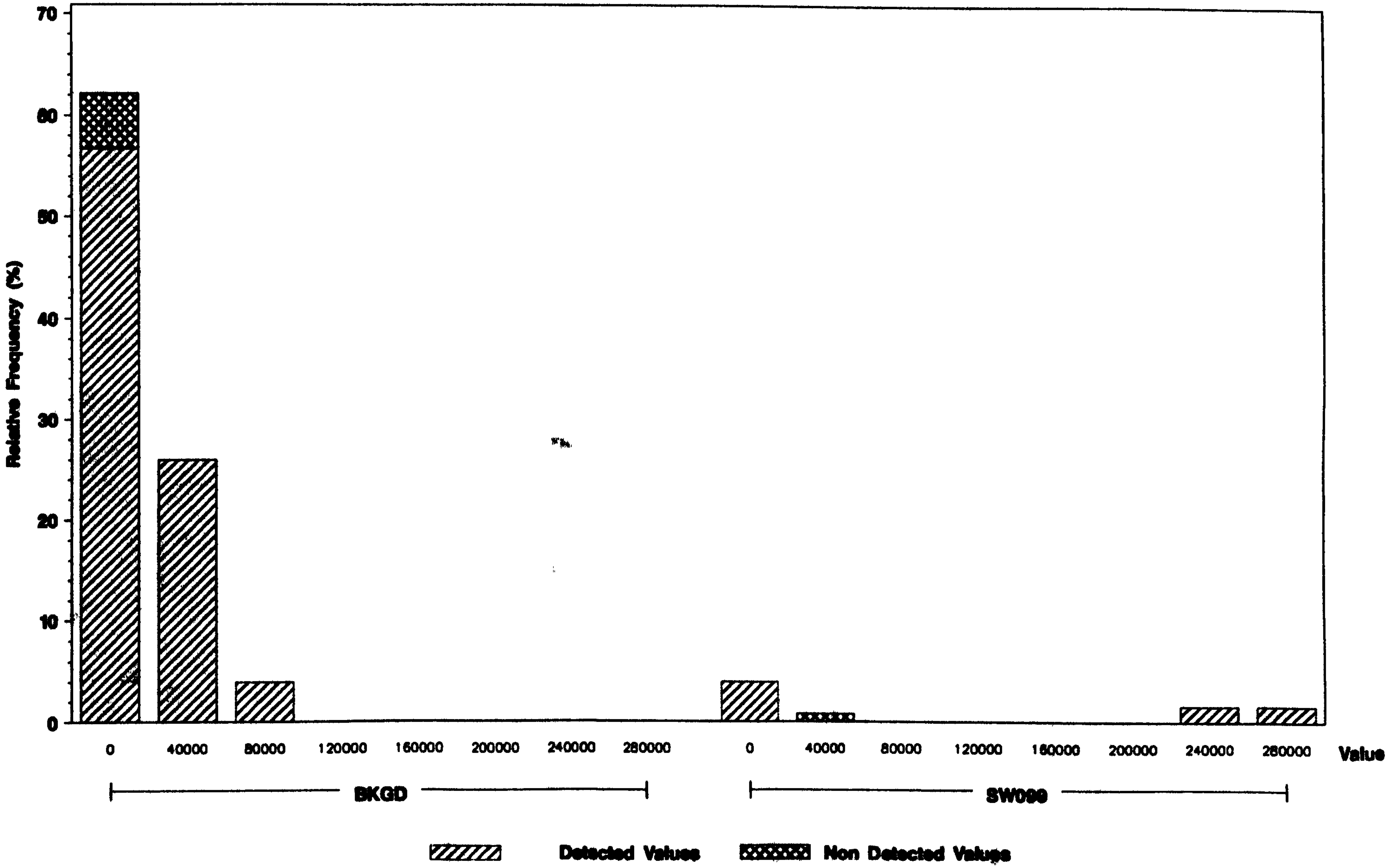
ANALYTE=CBOD5



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total CHLORIDE (ug/L) in Surface Water

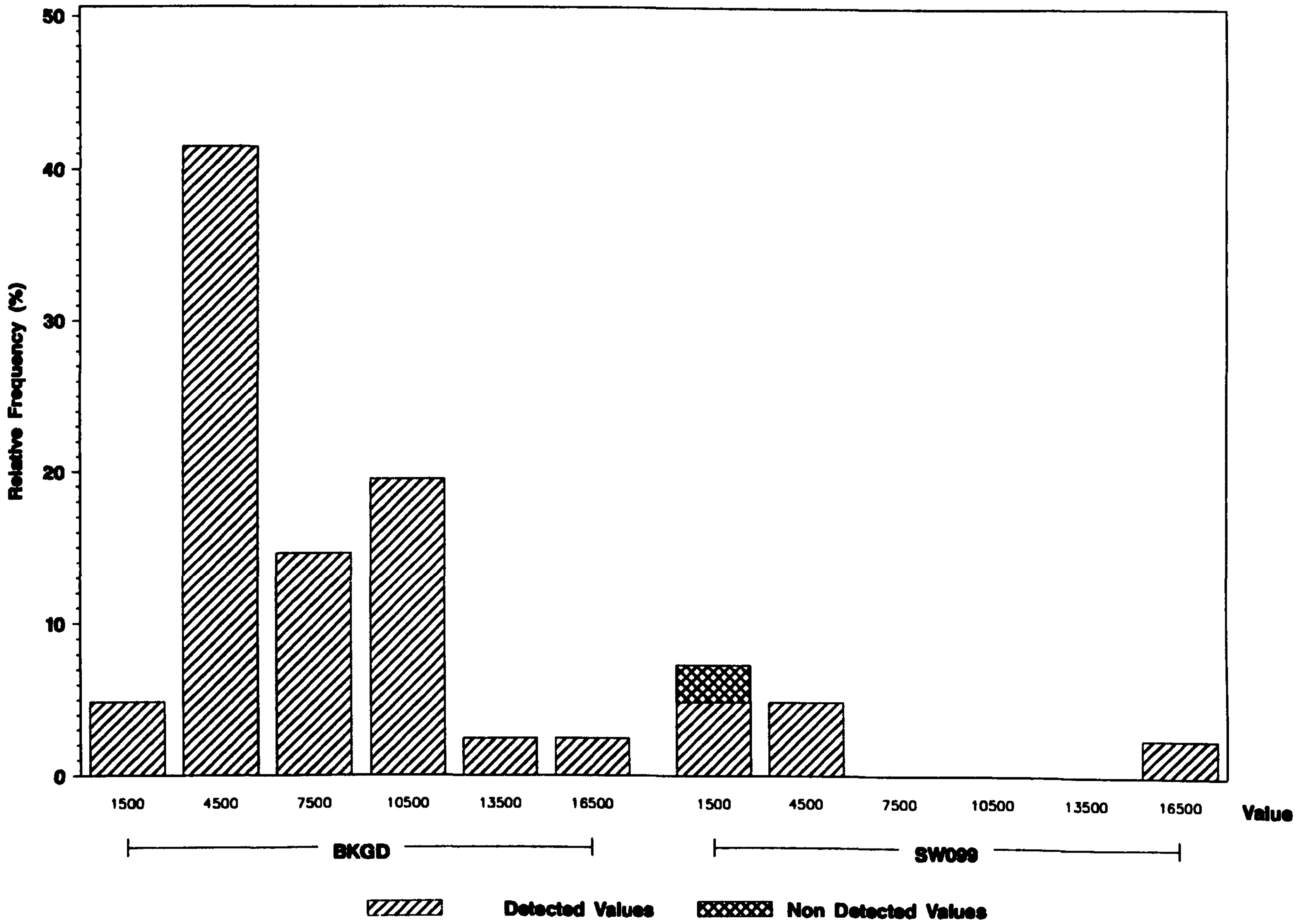
ANALYTE=CHLORIDE



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total DISSOLVED ORGANIC CARBON (ug/L) in Surface Water

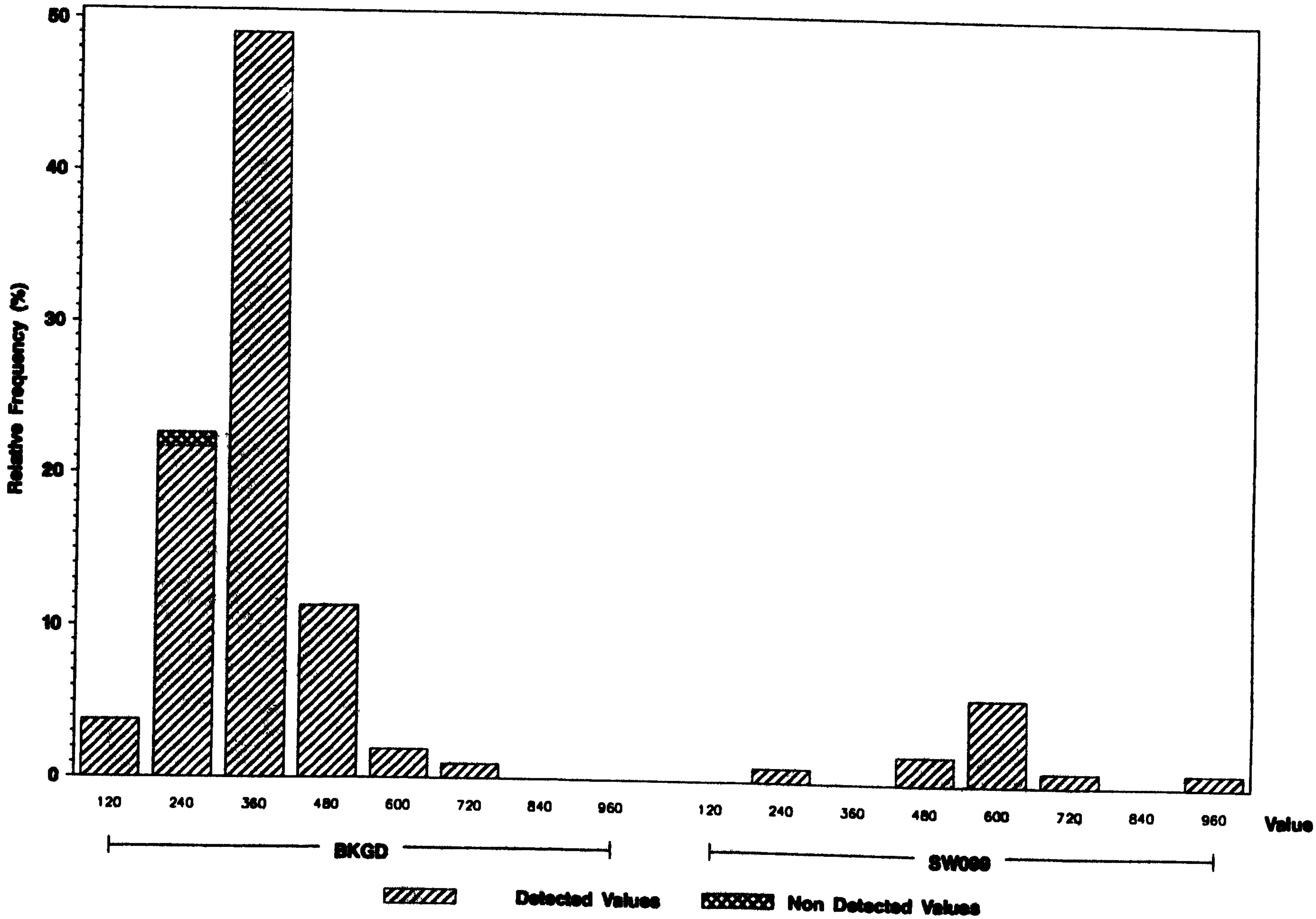
ANALYTE = DISSOLVED ORGANIC CARBON



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total FLUORIDE (ug/L) in Surface Water

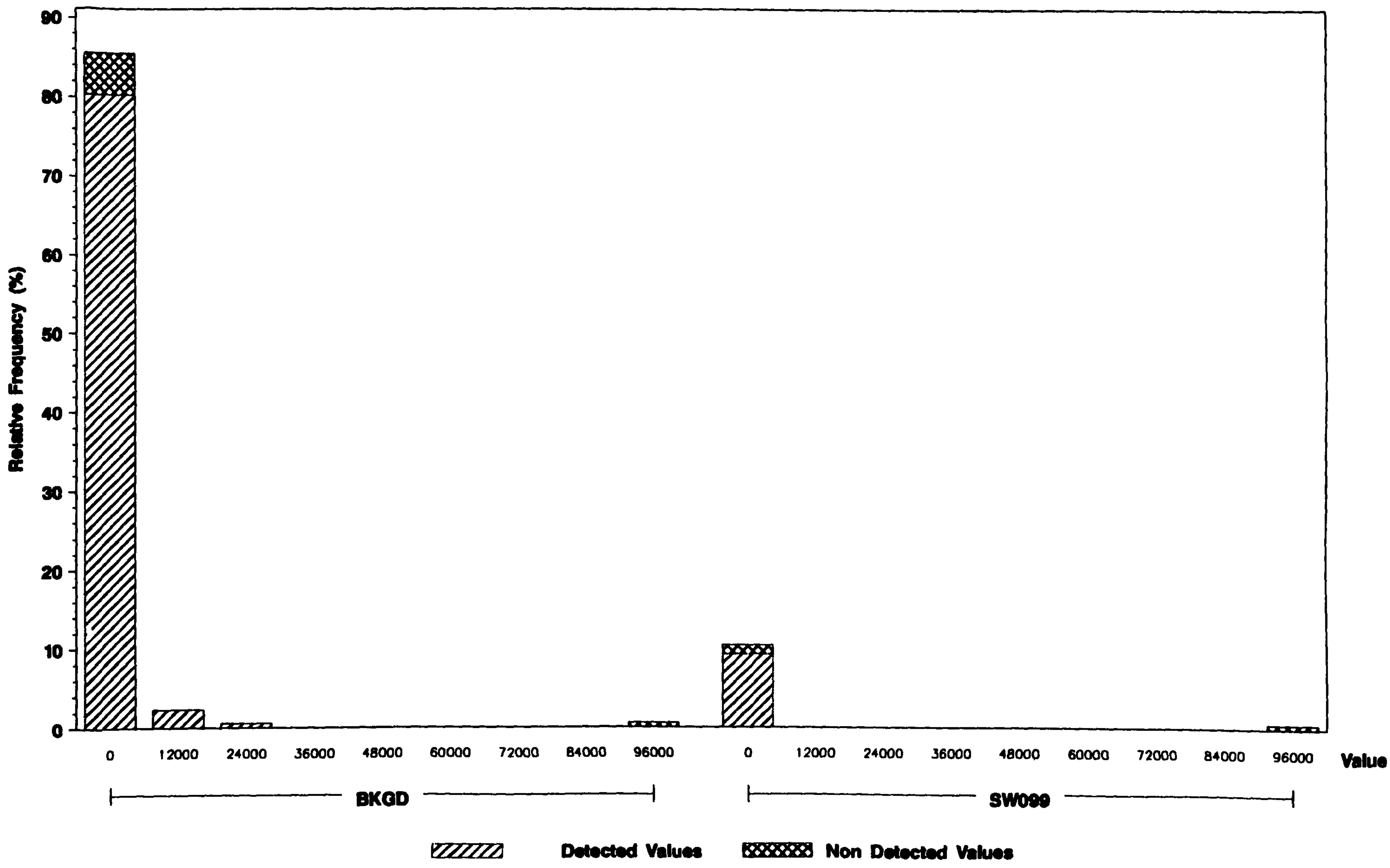
ANALYTE = FLUORIDE



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total IRON (ug/L) In Surface Water

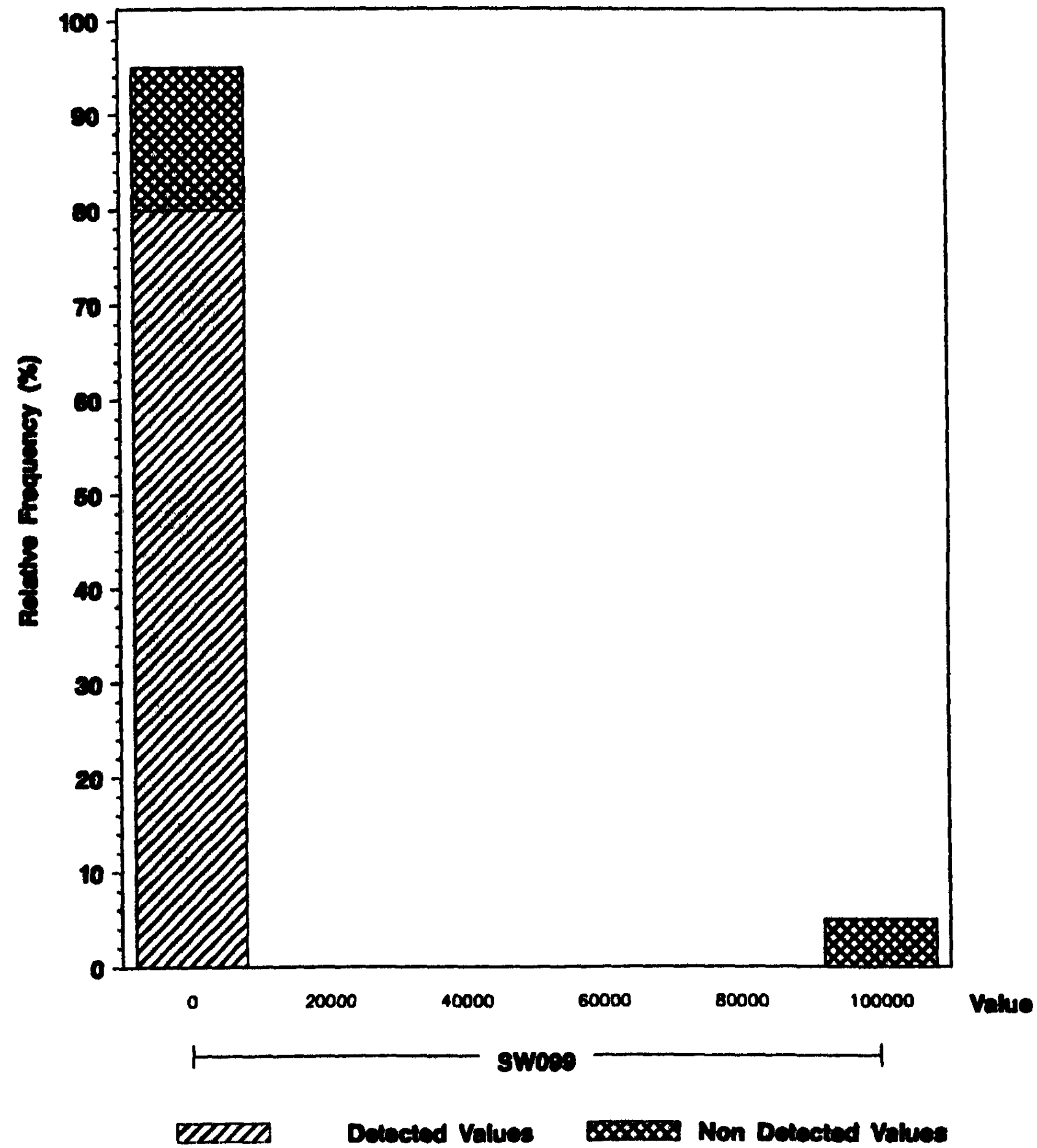
ANALYTE=IRON



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total LITHIUM (ug/L) In Surface Water

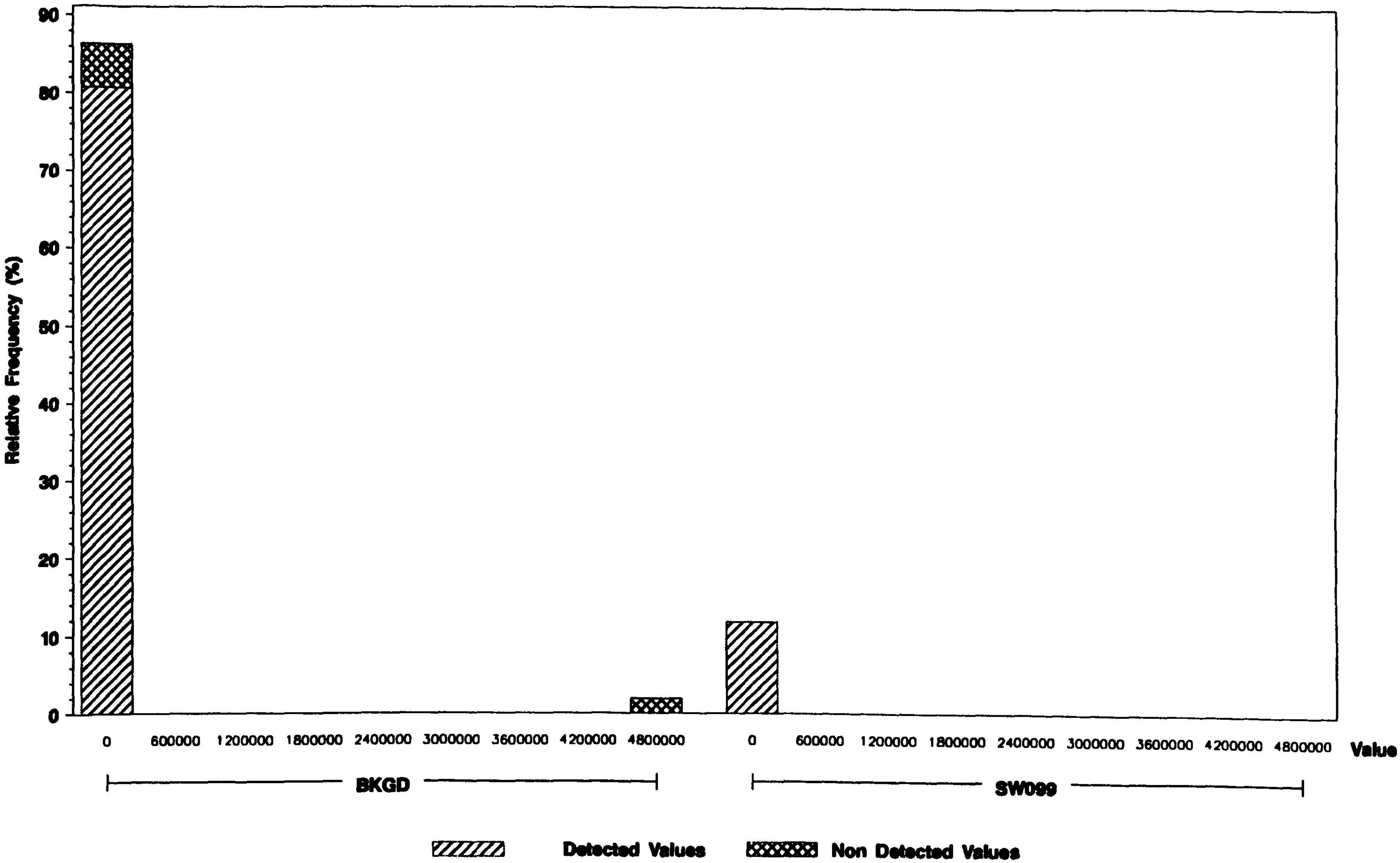
ANALYTE=LITHIUM



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total MAGNESIUM (ug/L) in Surface Water

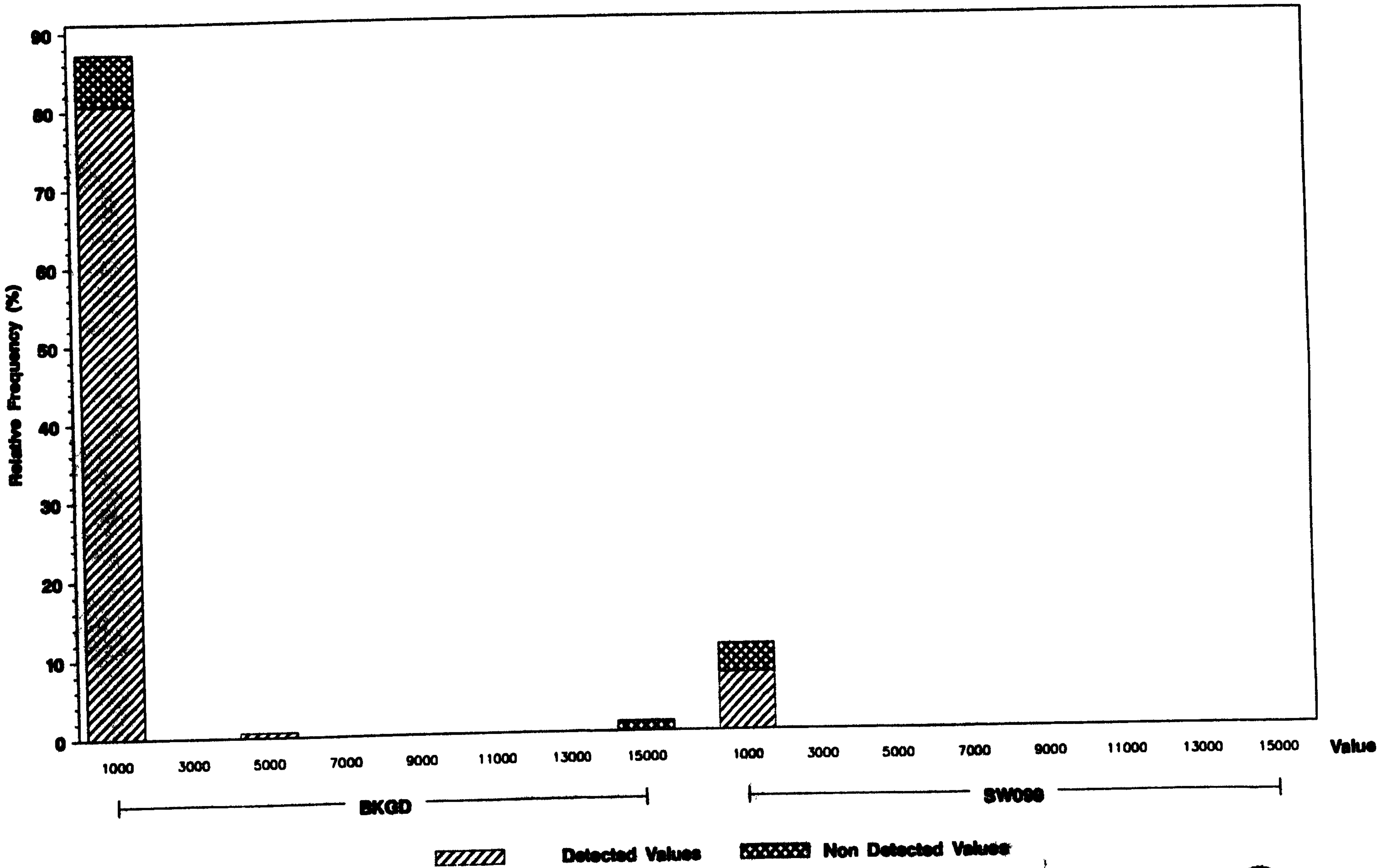
ANALYTE=MAGNESIUM



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total MANGANESE (ug/L) In Surface Water

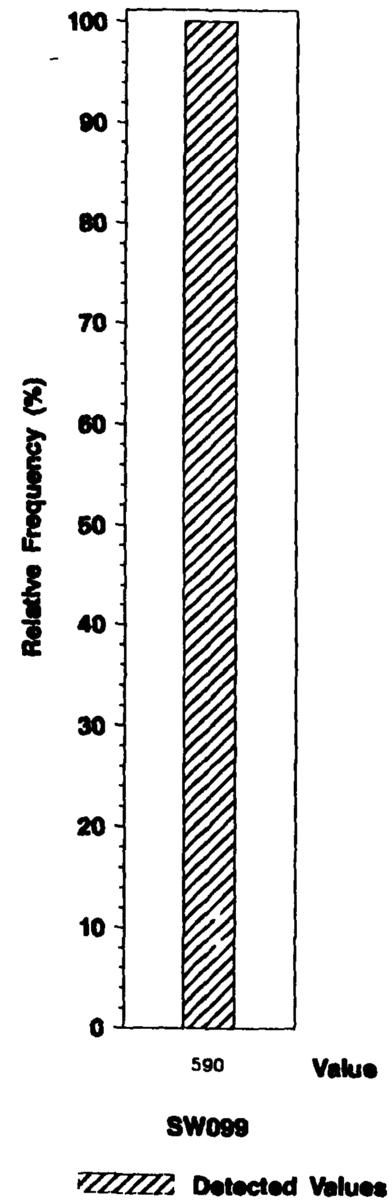
ANALYTE=MANGANESE



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total NITRATE (ug/L) in Surface Water

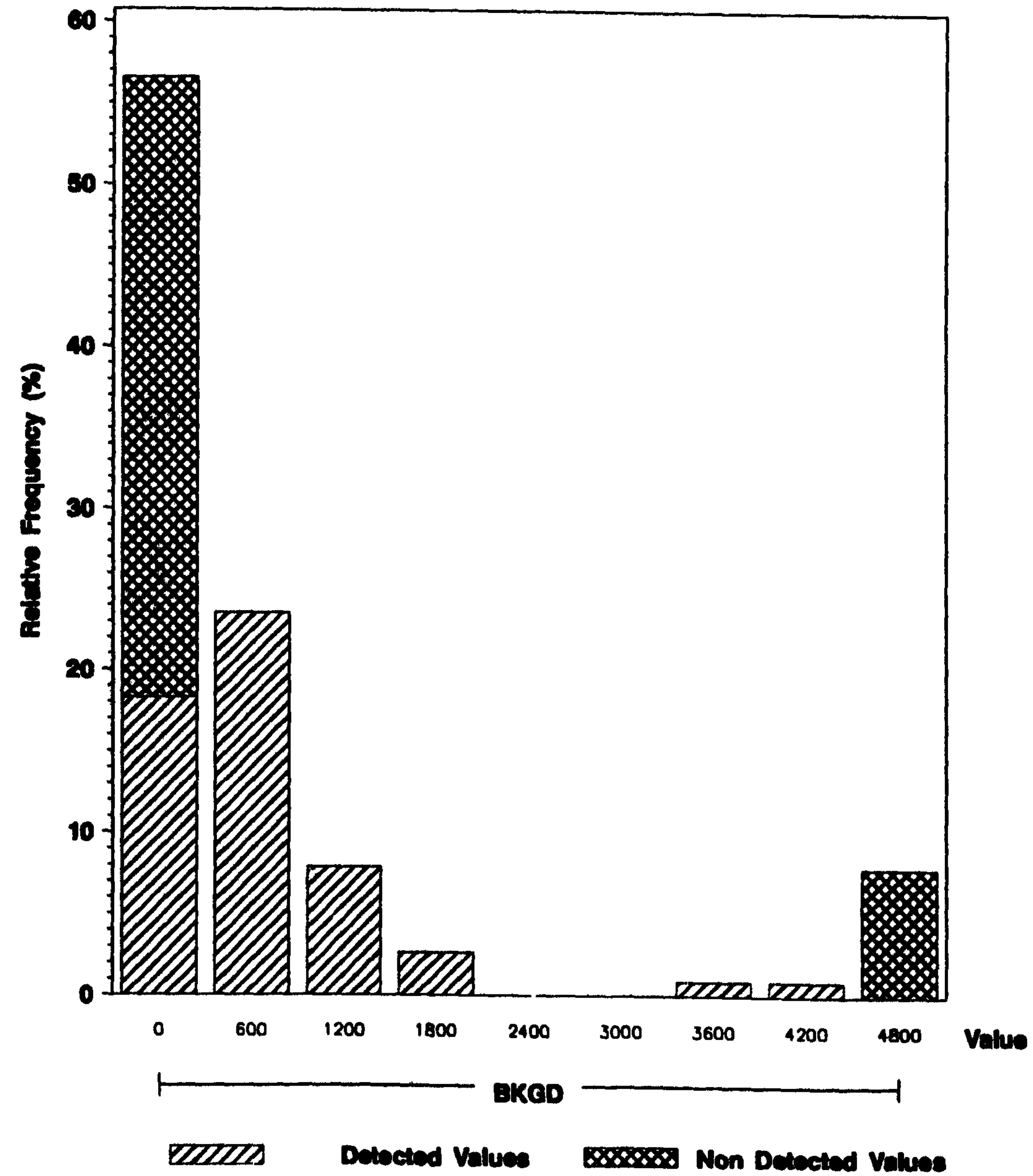
ANALYTE=NITRATE



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total NITRATE/NITRITE (ug/L) In Surface Water

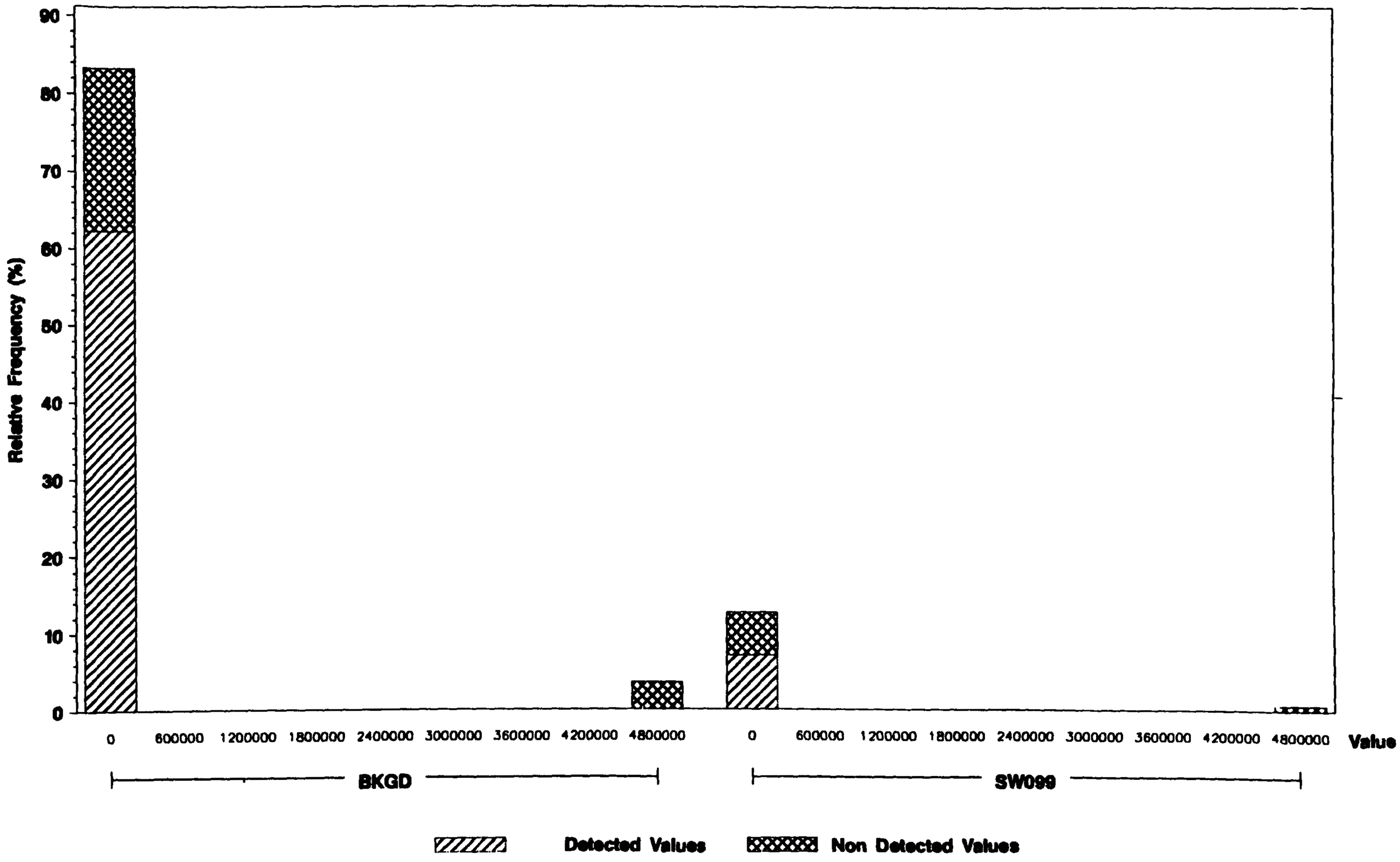
ANALYTE=NITRATE/NITRITE



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total POTASSIUM (ug/L) in Surface Water

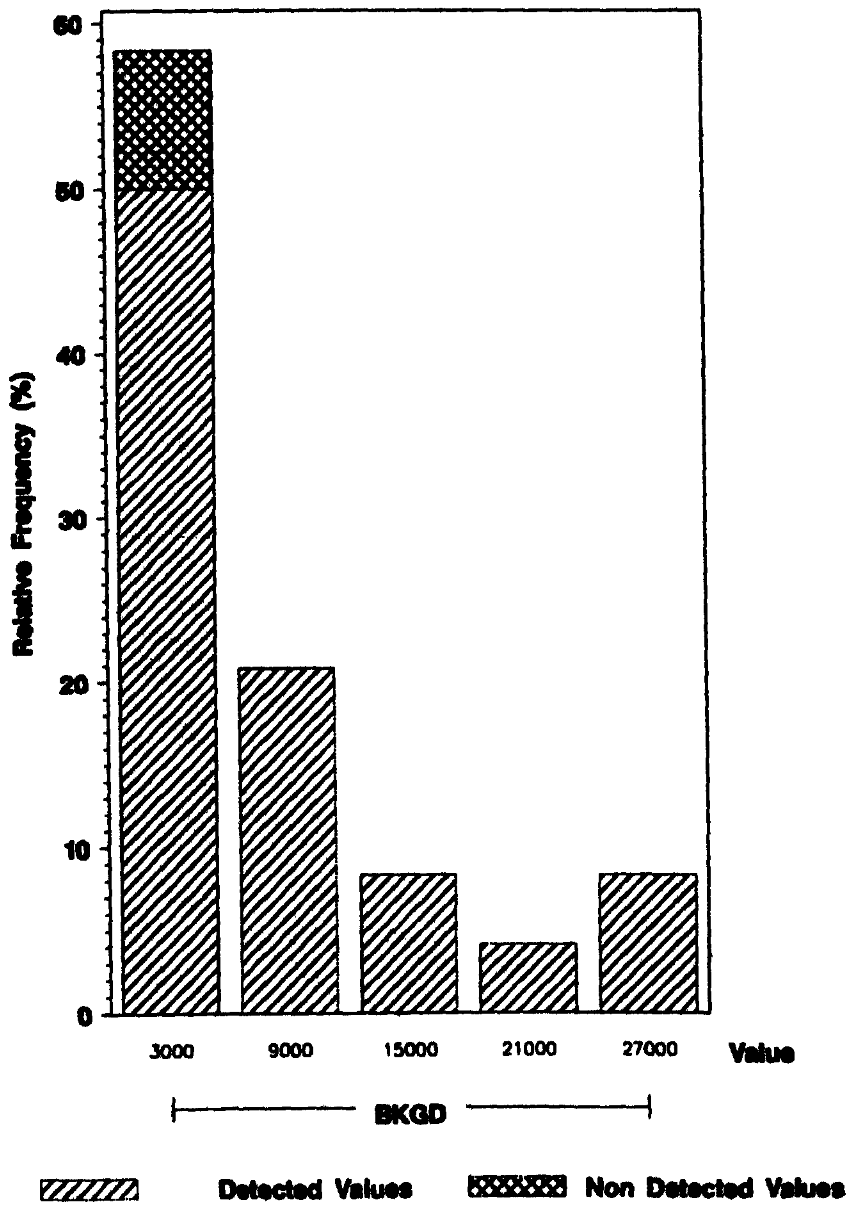
ANALYTE=POTASSIUM



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total SILICA (ug/L) in Surface Water

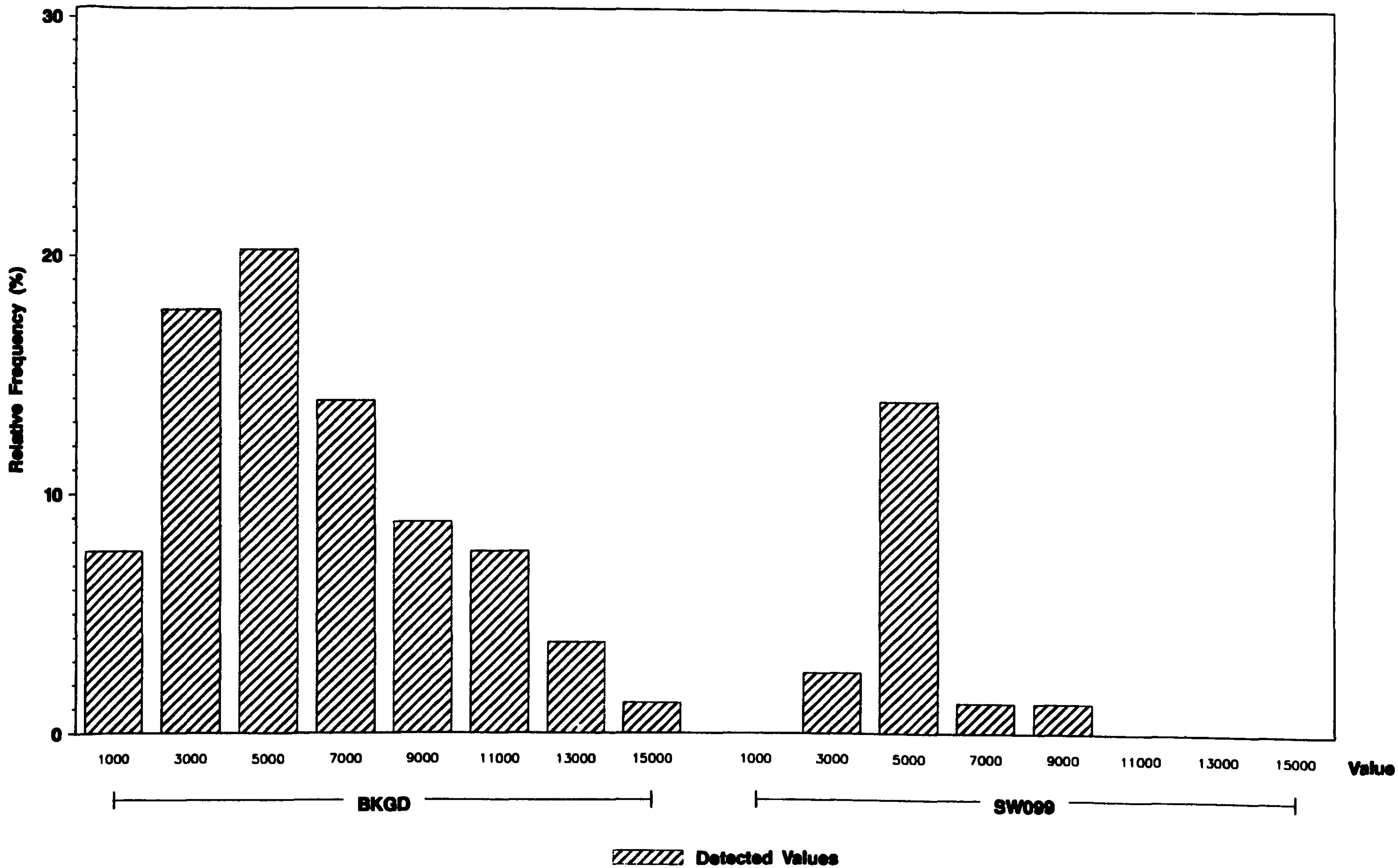
ANALYTE=SILICA



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total SILICON (ug/L) in Surface Water

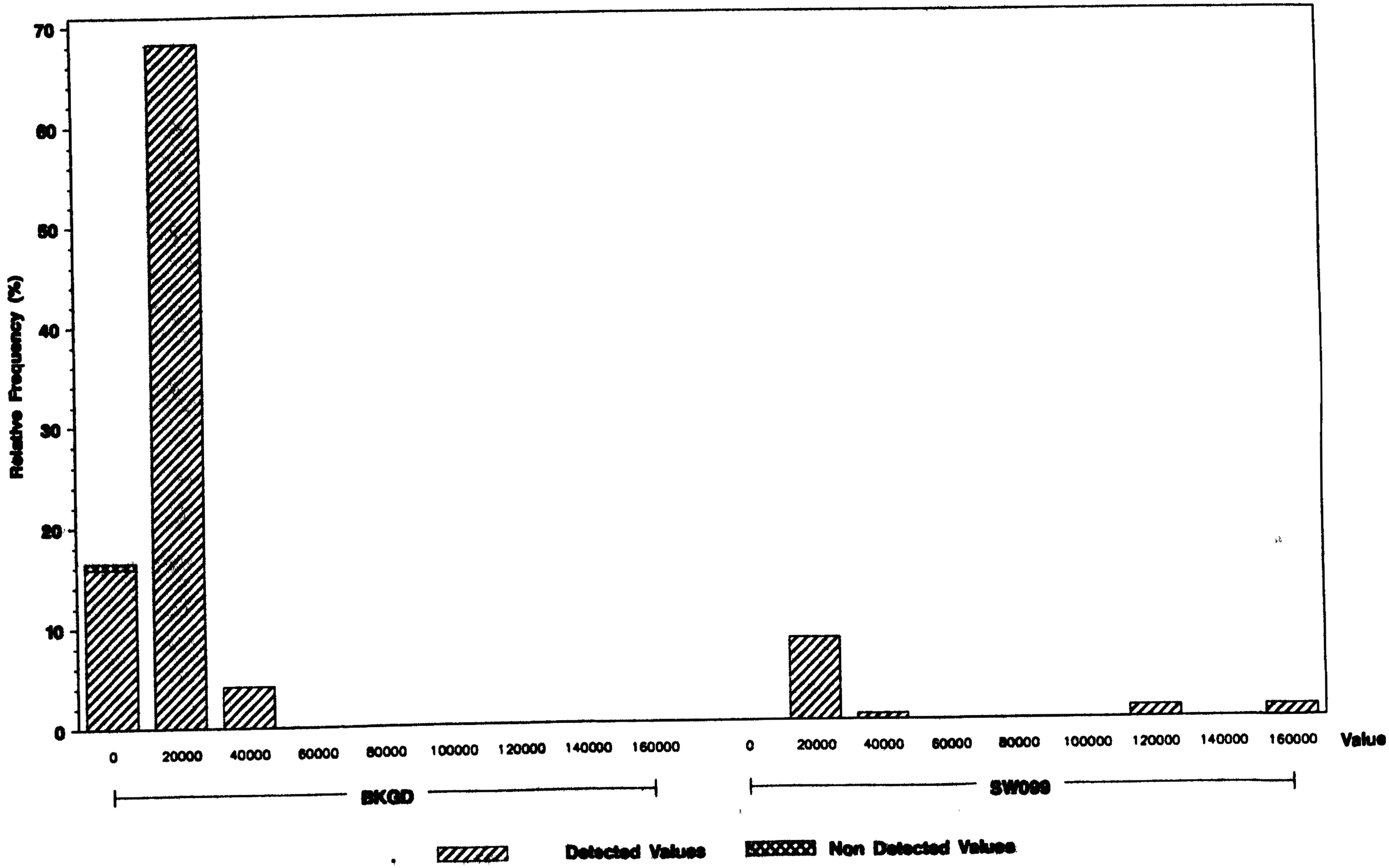
ANALYTE=SILICON



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total SODIUM (ug/L) In Surface Water

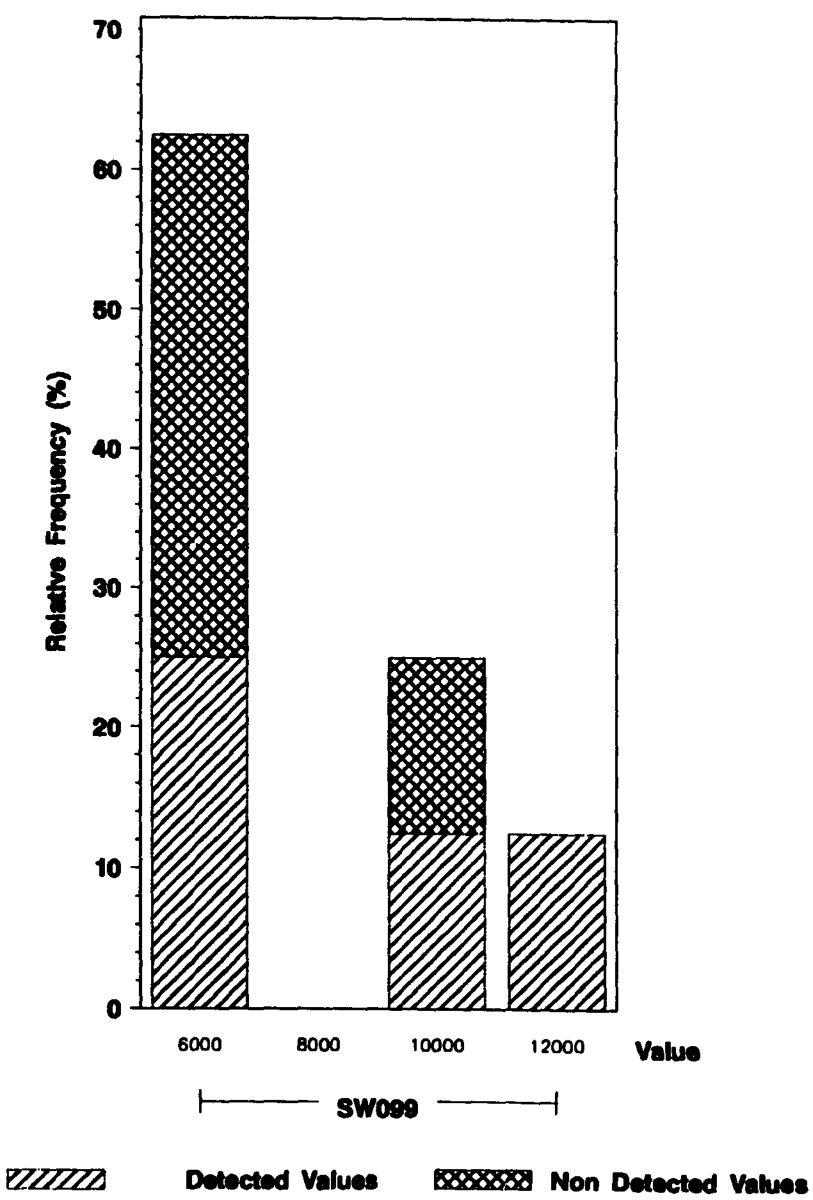
ANALYTE=SODIUM



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total SOLIDS, NONVOLATILE SUSPENDED (ug/L) In Surface Water

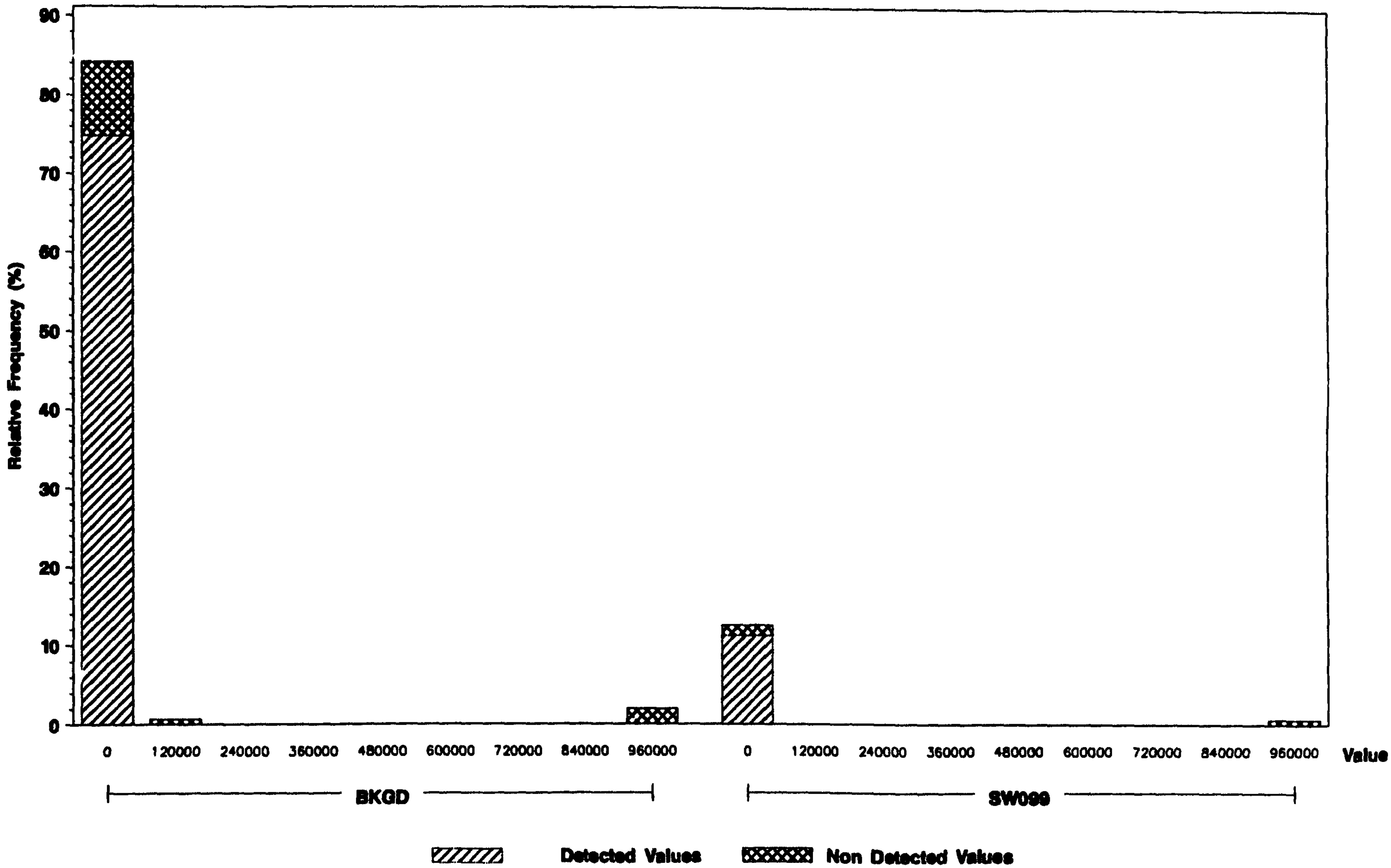
ANALYTE=SOLIDS, NONVOLATILE SUSPENDED



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total STRONTIUM (ug/L) In Surface Water

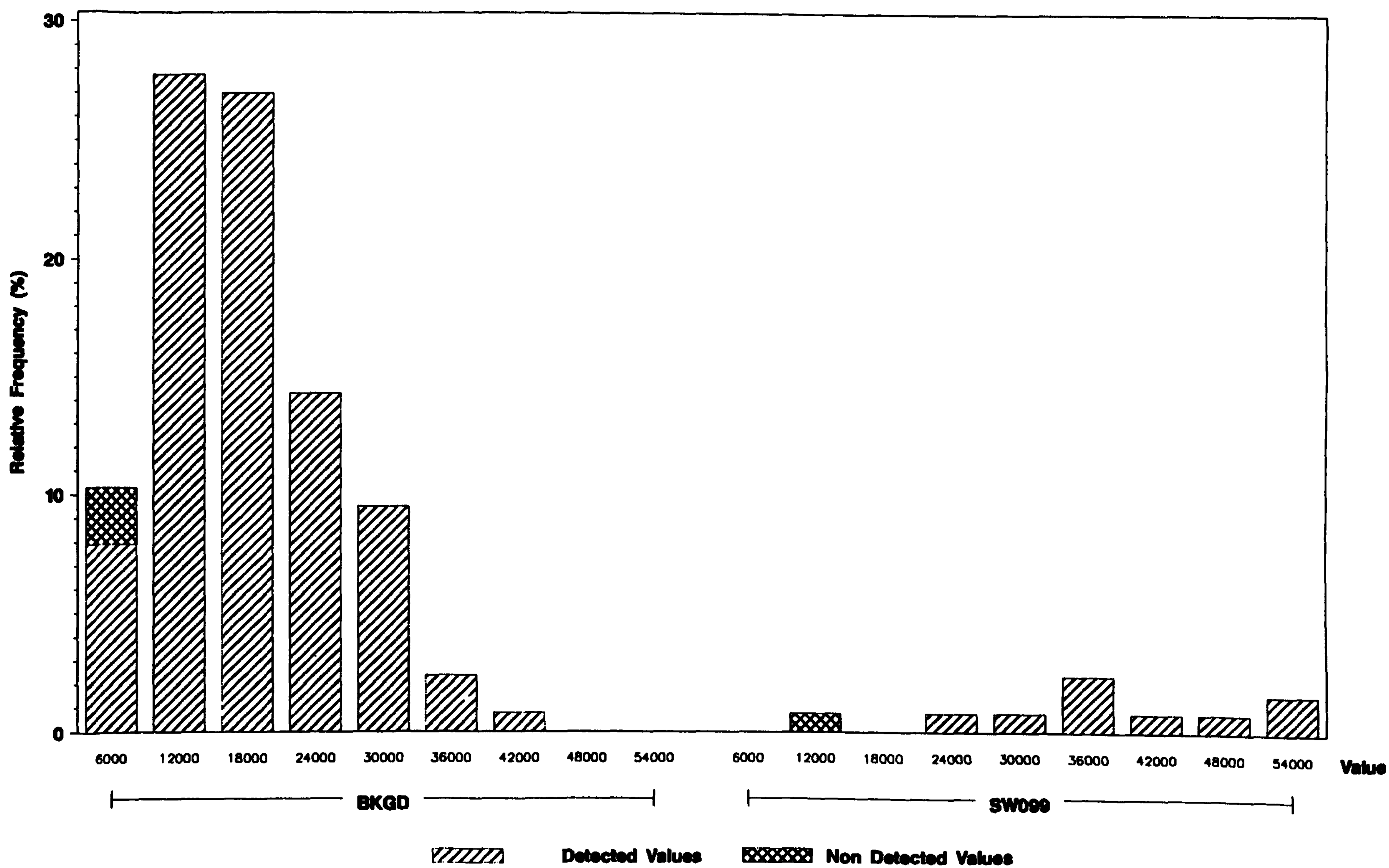
ANALYTE=STRONTIUM



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total SULFATE (ug/L) In Surface Water

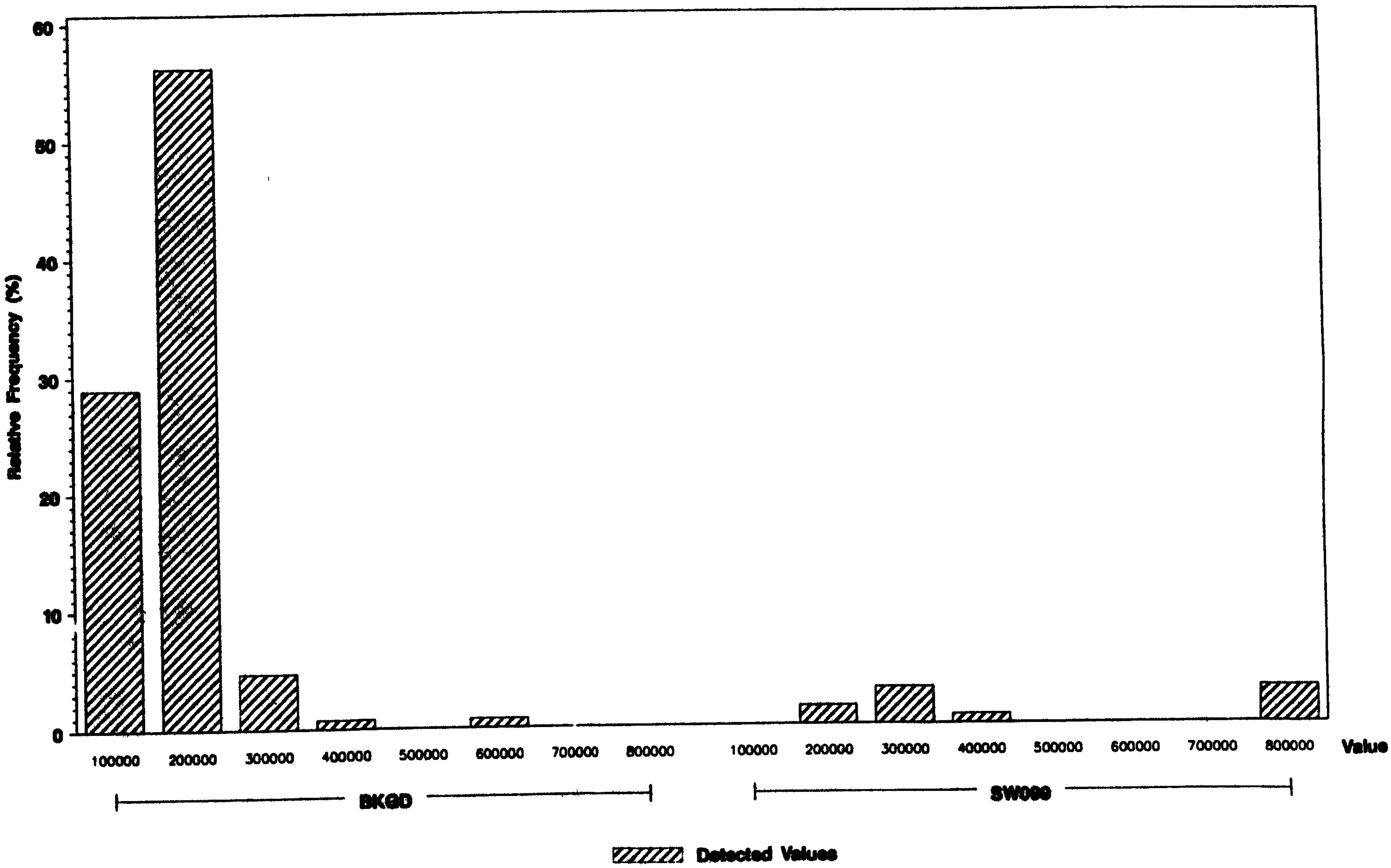
ANALYTE=SULFATE



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total TOTAL DISSOLVED SOLIDS (ug/L) in Surface Water

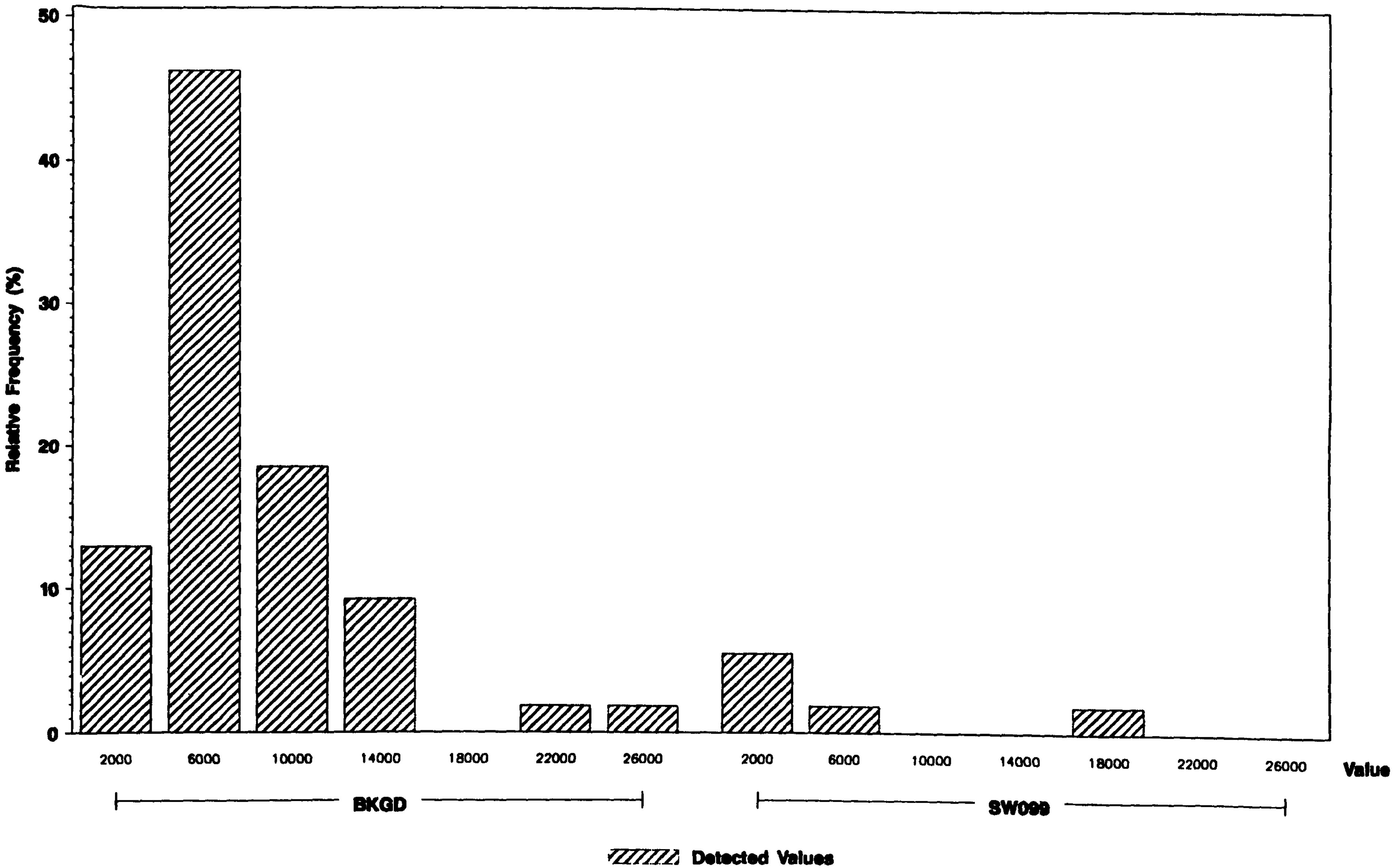
ANALYTE=TOTAL DISSOLVED SOLIDS



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total TOTAL ORGANIC CARBON (ug/L) in Surface Water

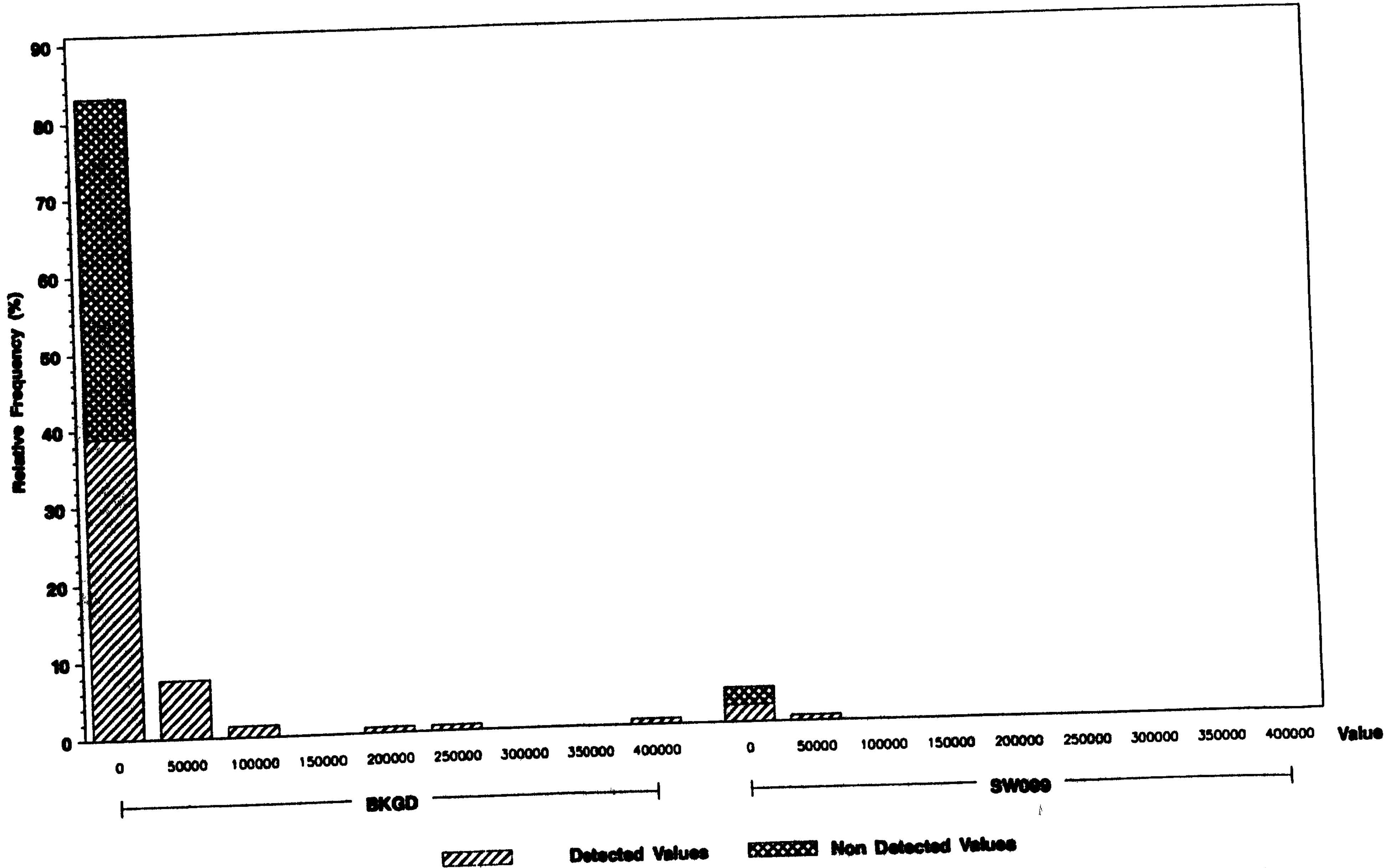
ANALYTE=TOTAL ORGANIC CARBON



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total TOTAL SUSPENDED SOLIDS (ug/L) in Surface Water

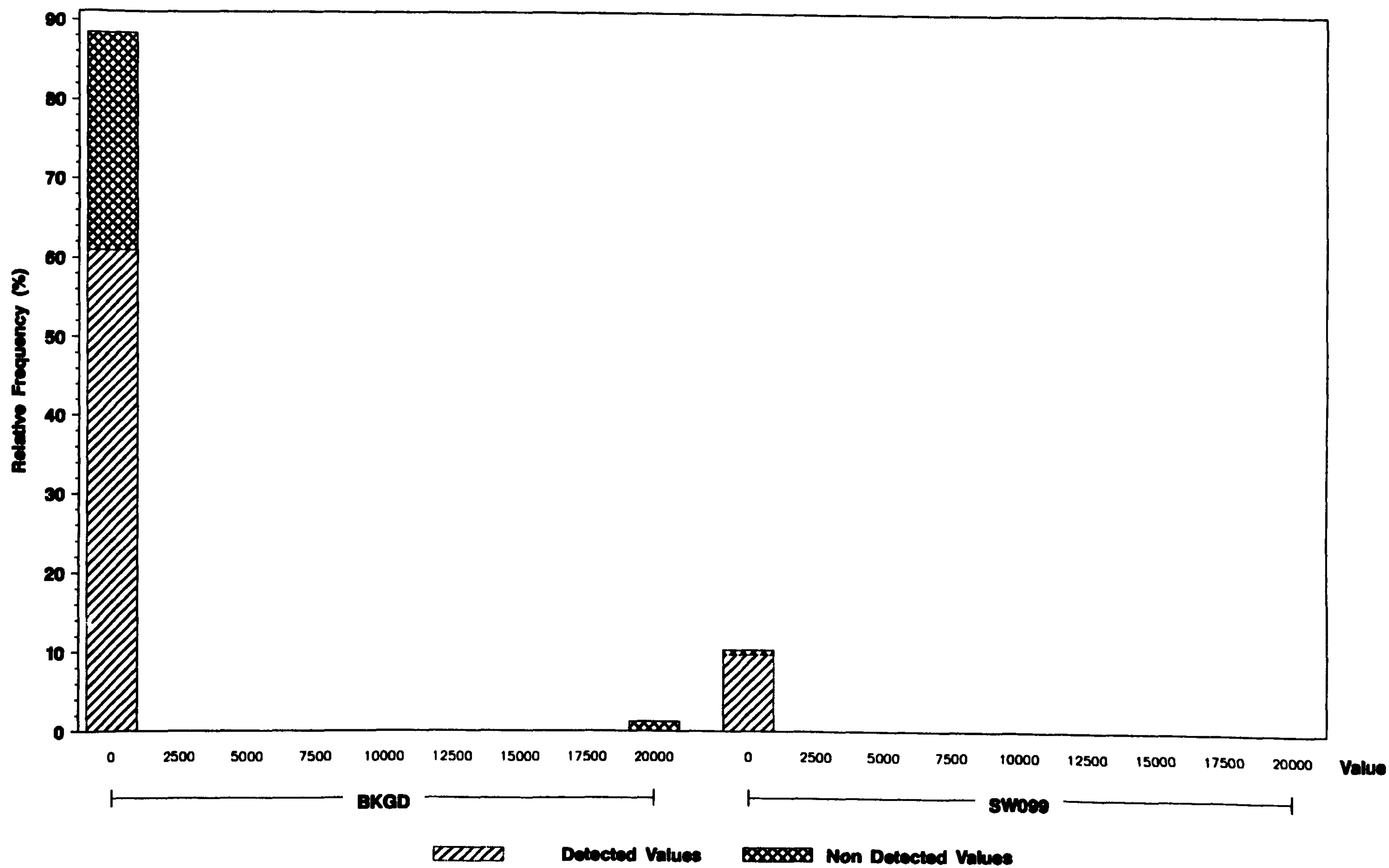
ANALYTE=TOTAL SUSPENDED SOLIDS



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total ZINC (ug/L) in Surface Water

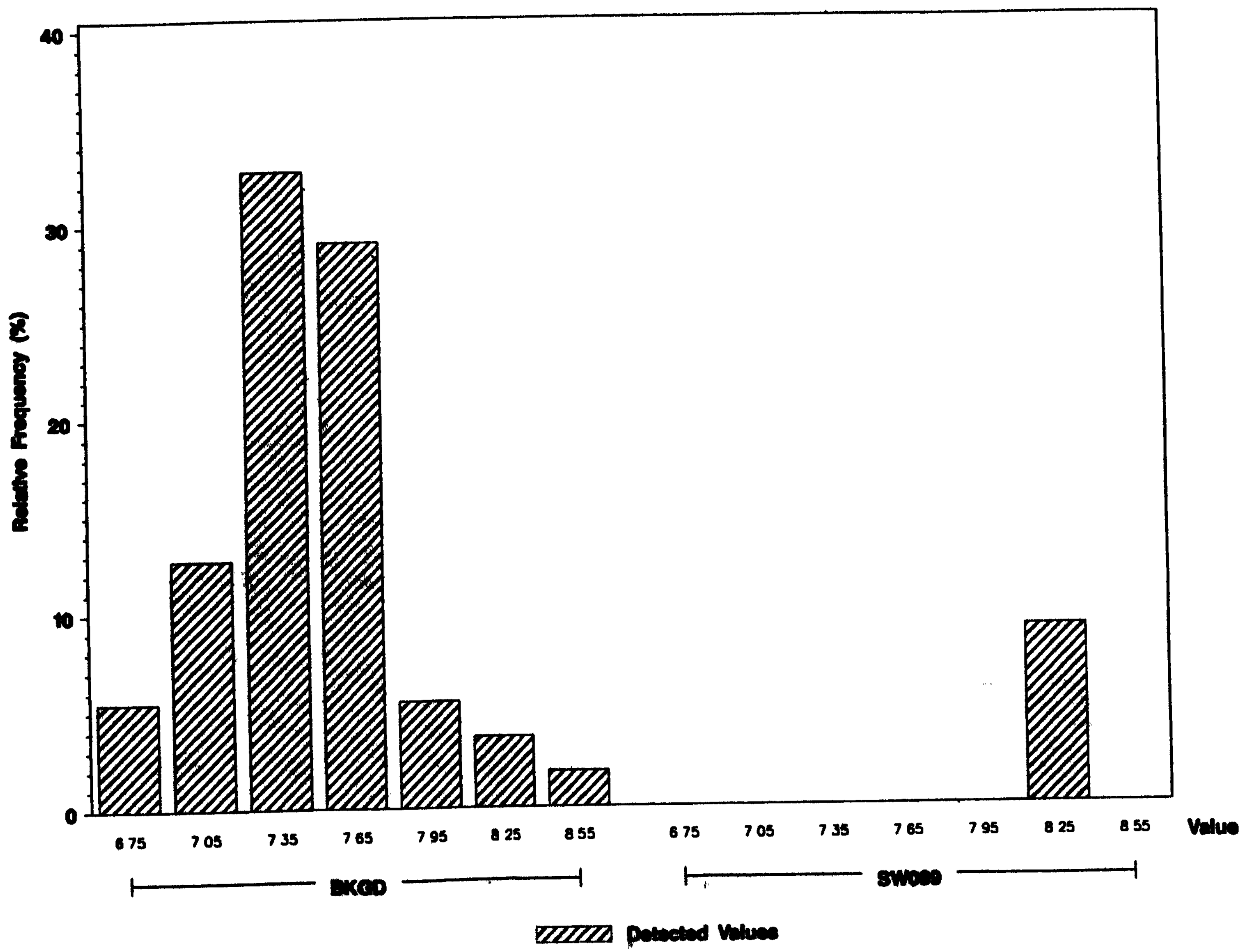
ANALYTE=ZINC



Background vs OU7 Surface Water (SW099) Frequency Histogram

Total pH (pCi/L) in Surface Water

ANALYTE = pH



Surface Water

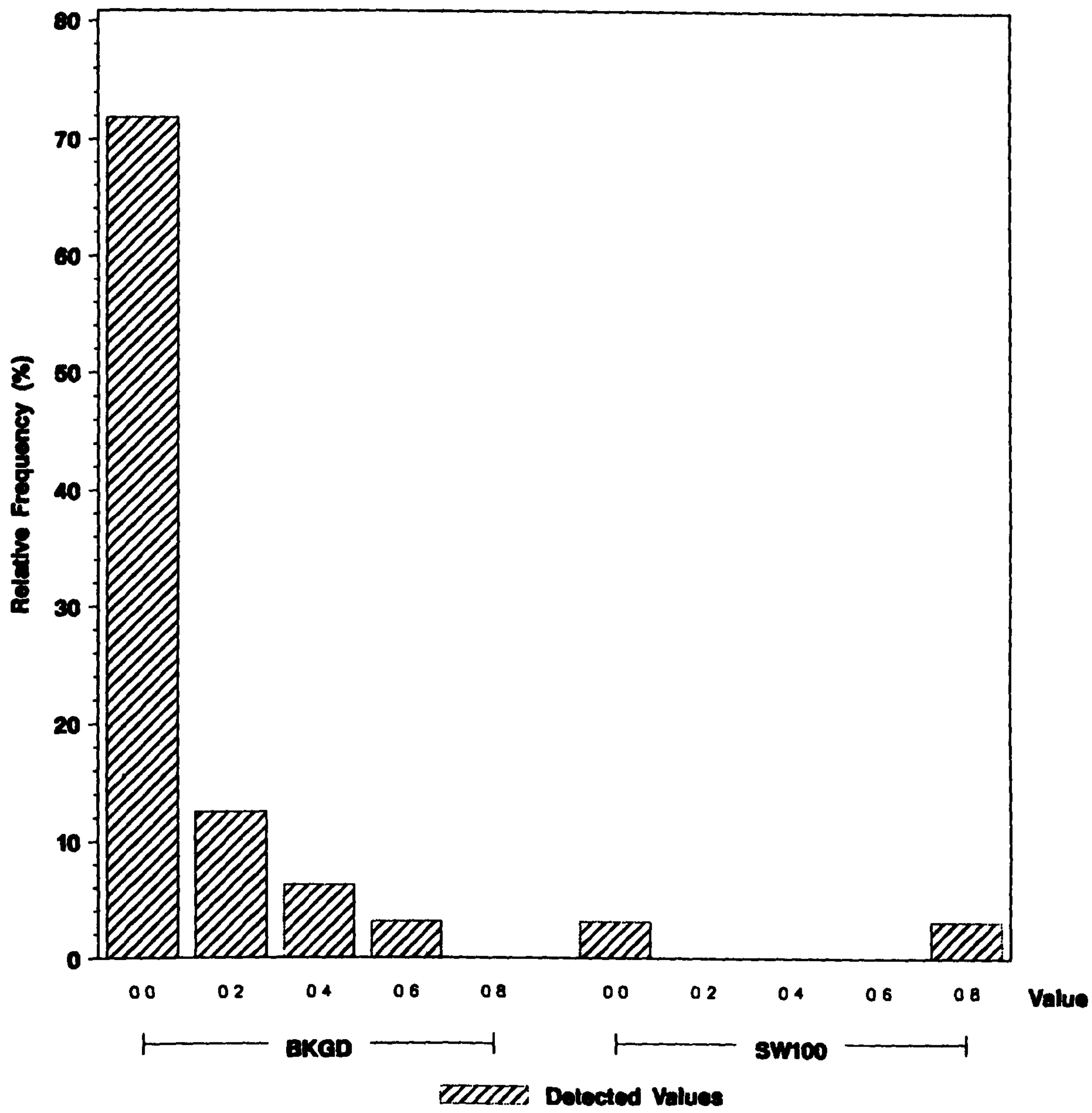
(Dissolved)

Background vs OU 7 (SW100)

Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved AMERICIUM-241 (pCi/L) in Surface Water

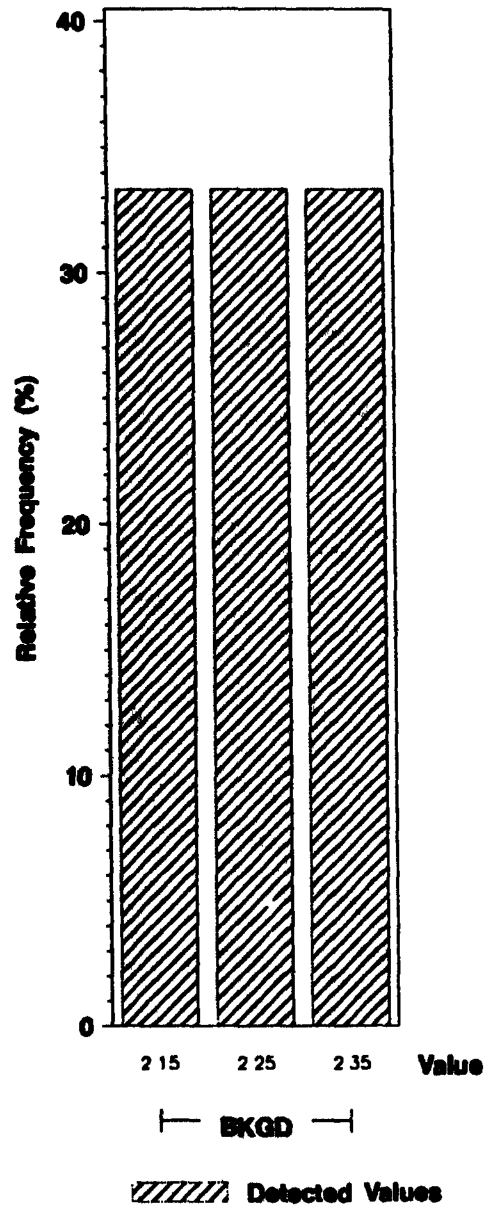
ANALYTE=AMERICIUM-241



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved CESIUM-134 (pCi/L) in Surface Water

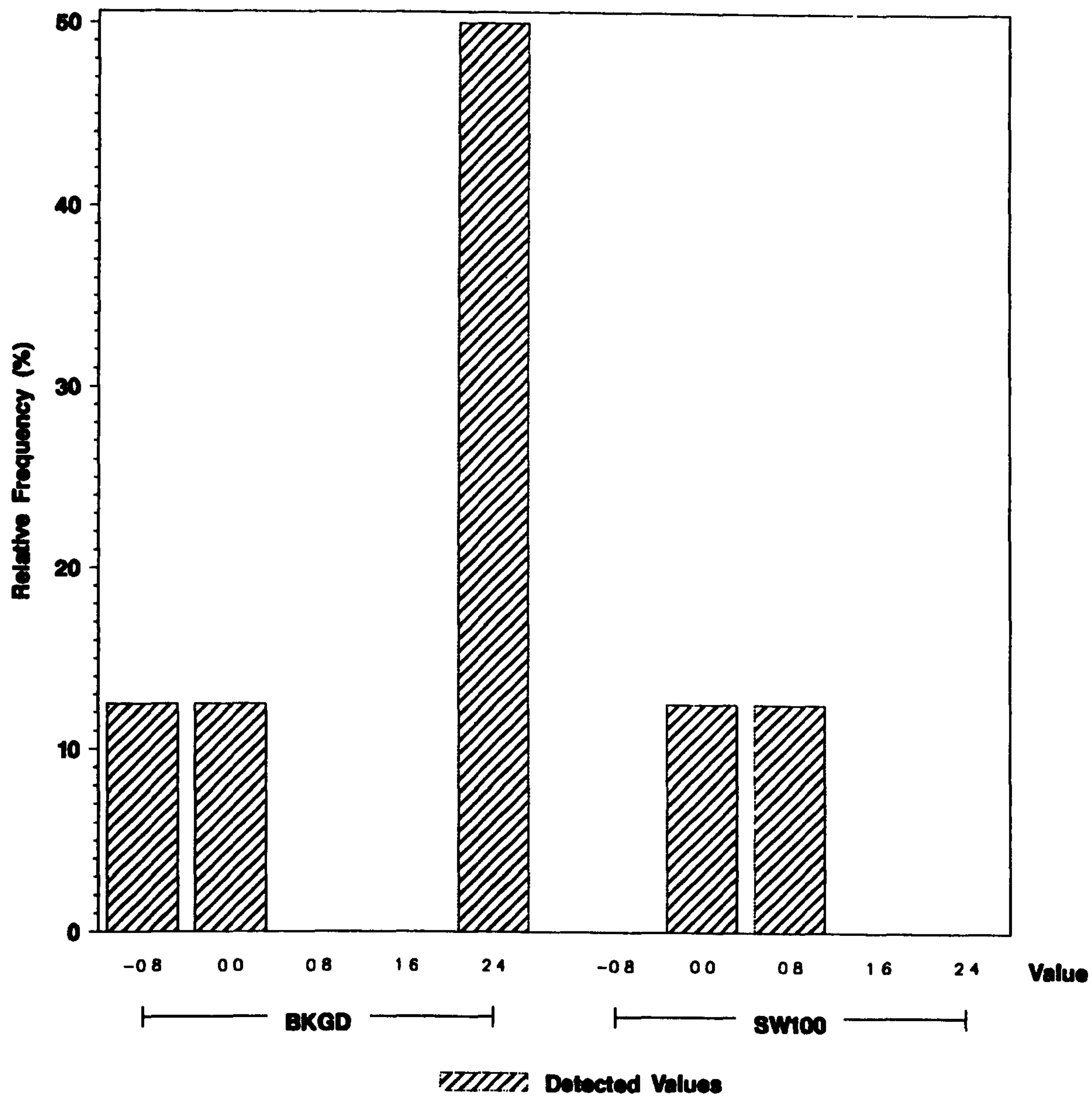
ANALYTE=CESIUM-134



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved CESIUM-137 (pCi/L) in Surface Water

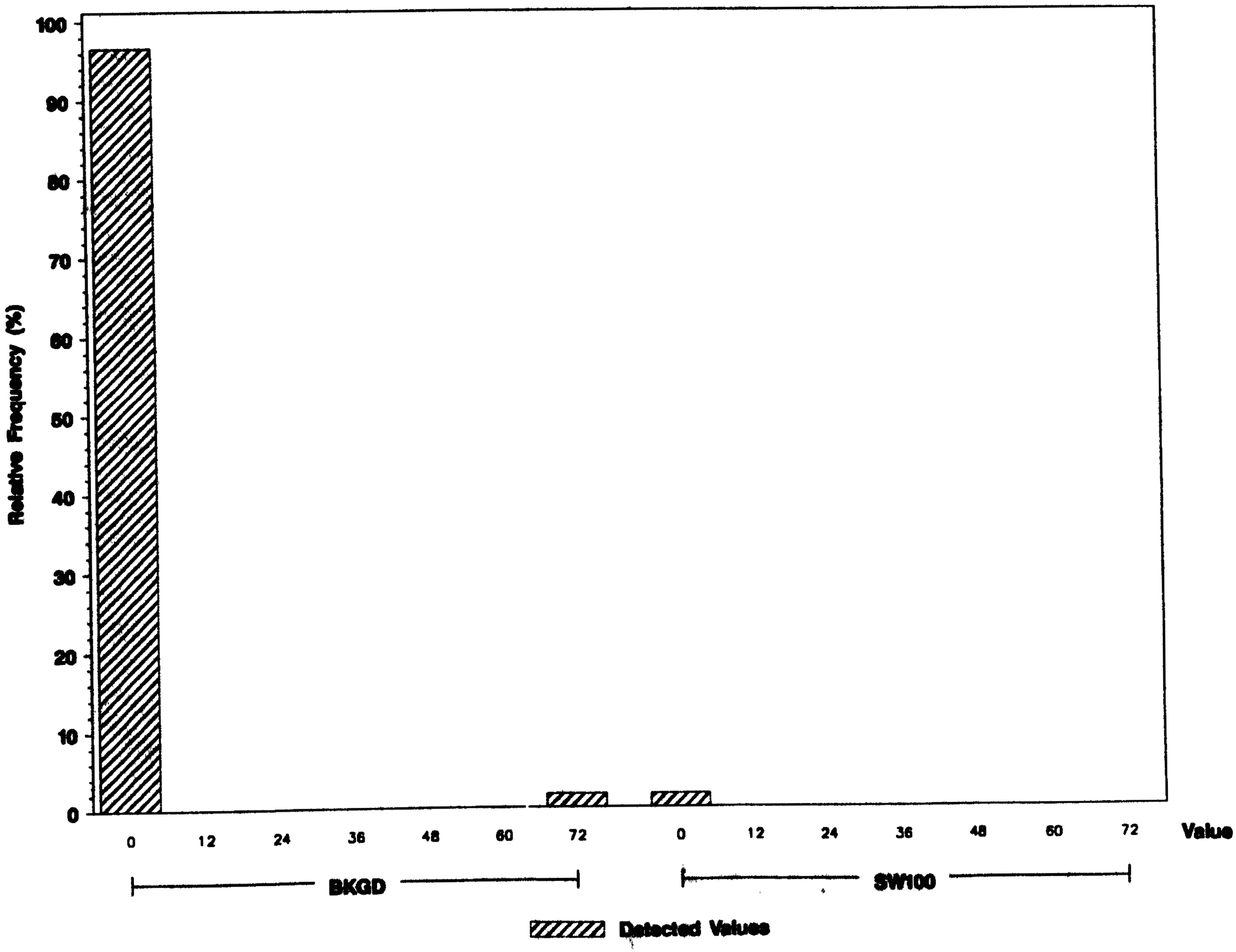
ANALYTE = CESIUM-137



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved GROSS ALPHA (pCi/L) In Surface Water

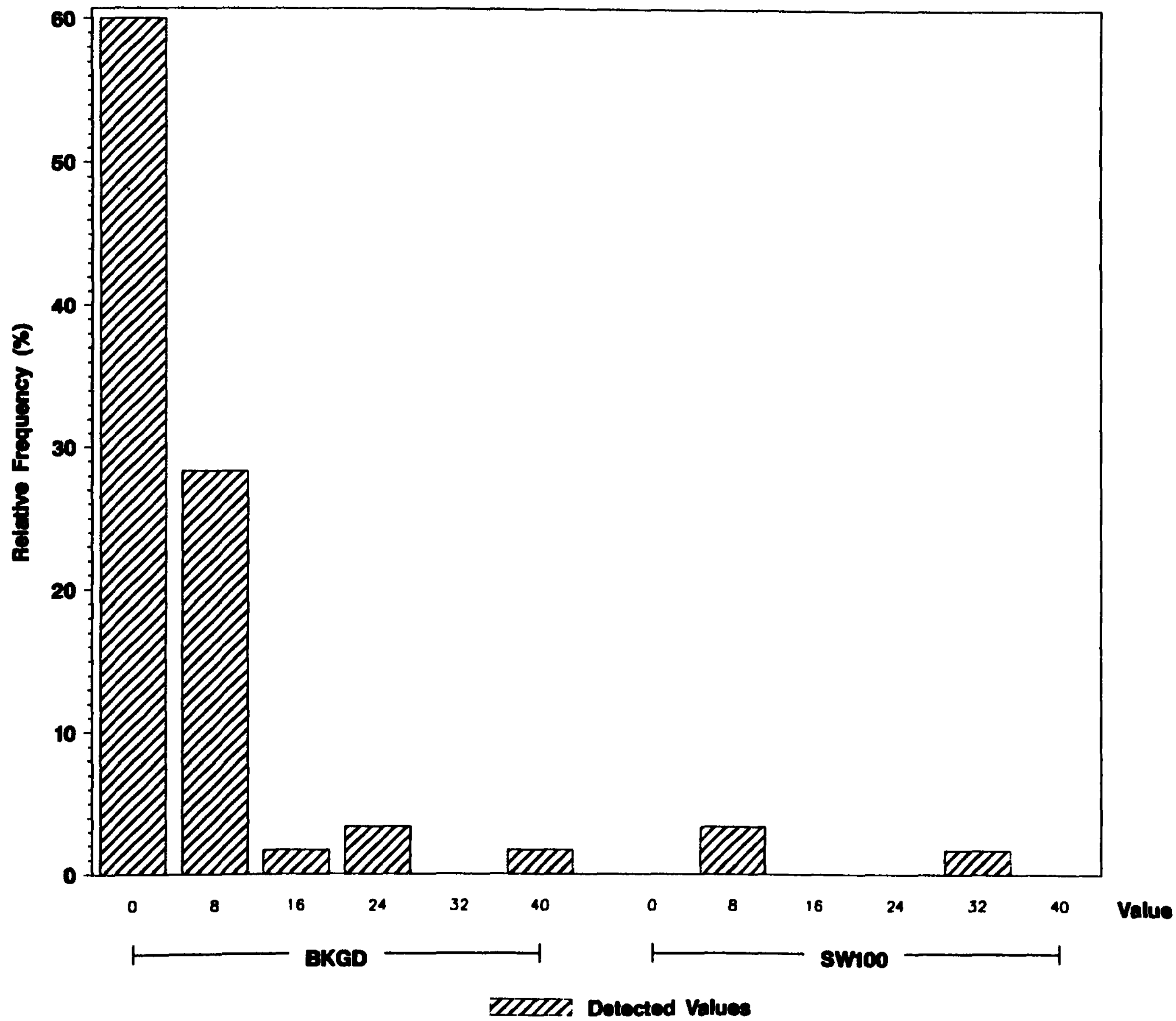
ANALYTE=GROSS ALPHA



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved GROSS BETA (pCi/L) in Surface Water

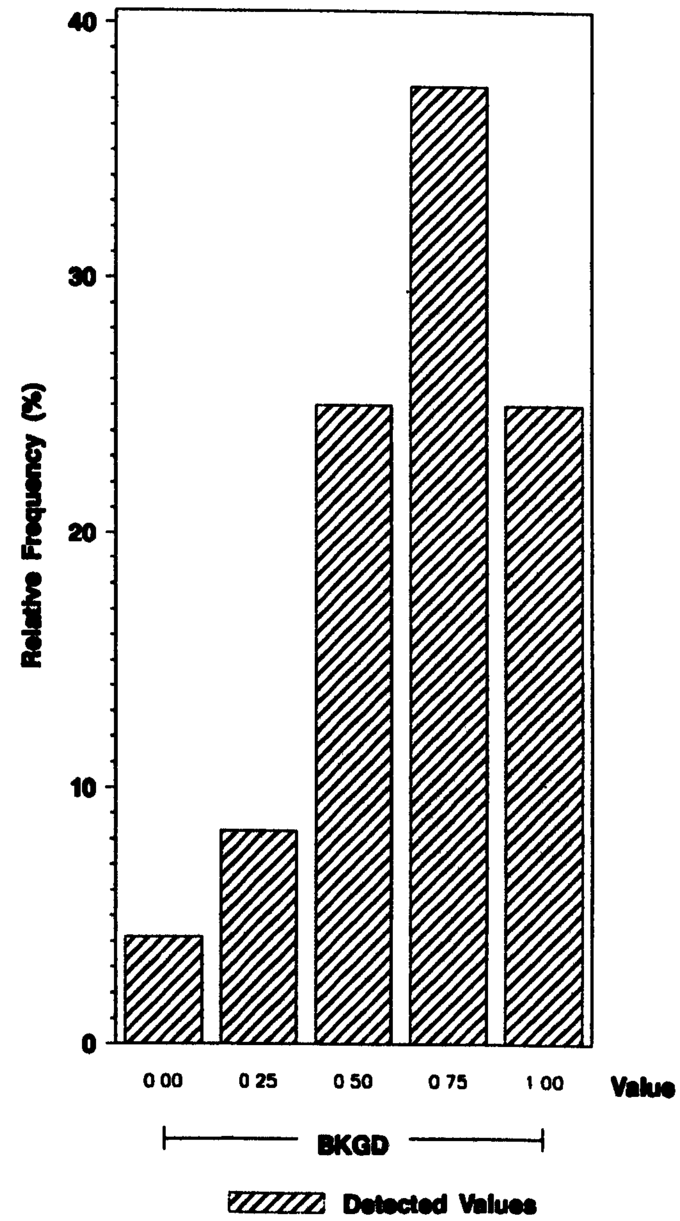
ANALYTE=GROSS BETA



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved GROSS GAMMA (pCi/L) in Surface Water

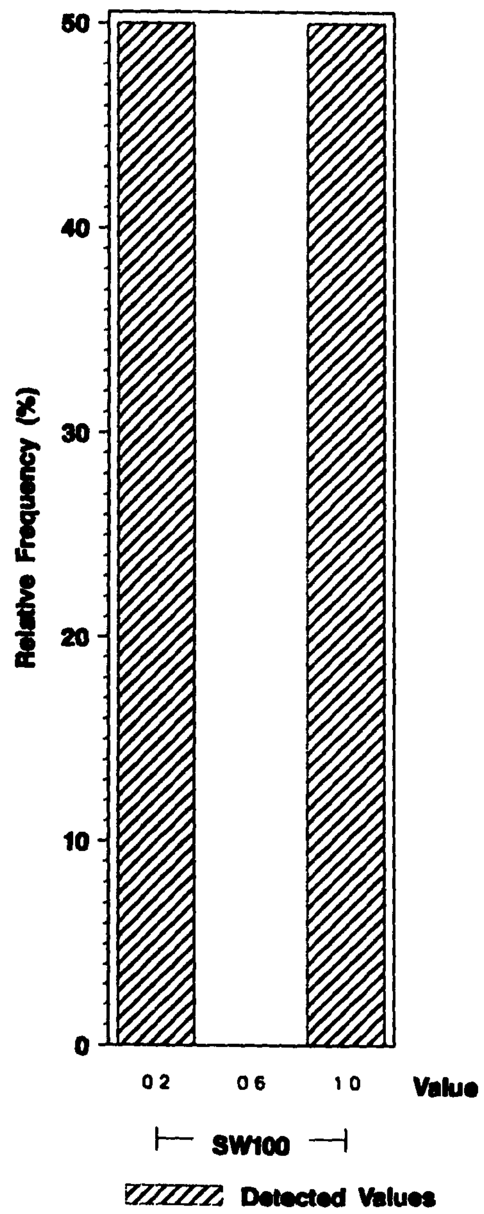
ANALYTE=GROSS GAMMA



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved NEPTUNIUM-237 (pCi/L) in Surface Water

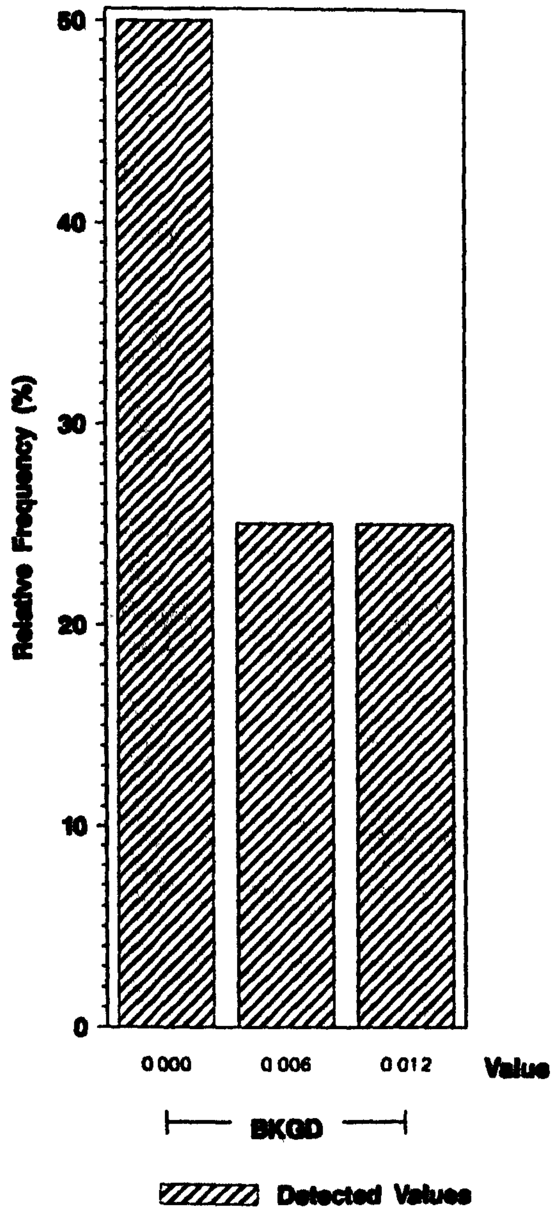
ANALYTE=NEPTUNIUM-237



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved PLUTONIUM-236 (pCi/L) in Surface Water

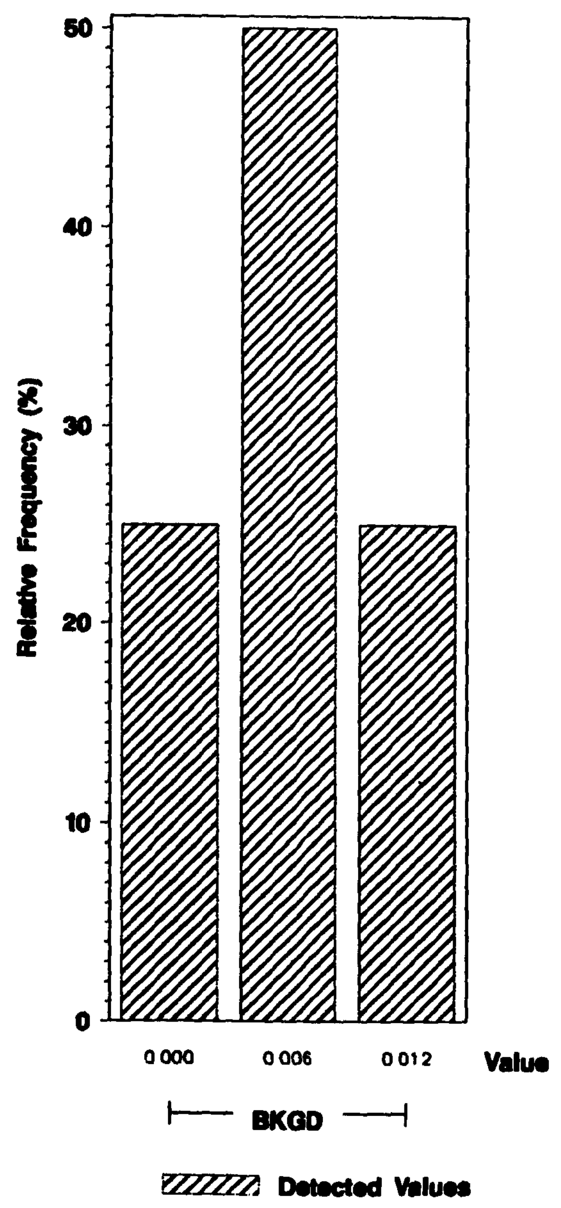
ANALYTE = PLUTONIUM-236



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved PLUTONIUM – 238 (pCi/L) in Surface Water

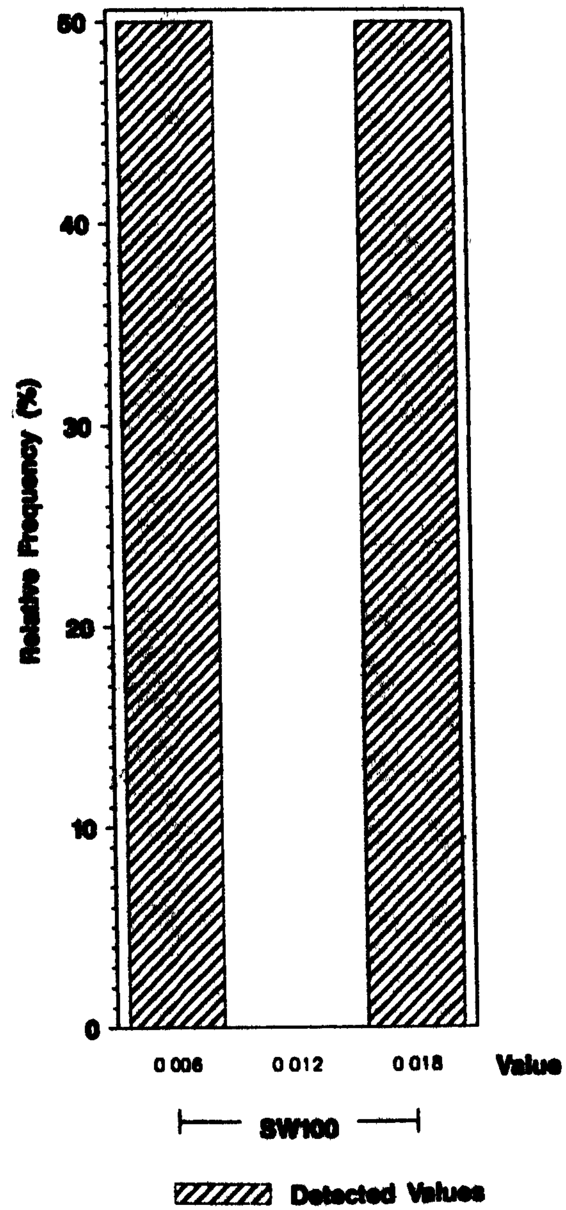
ANALYTE = PLUTONIUM – 238



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved PLUTONIUM–239 (pCi/L) in Surface Water

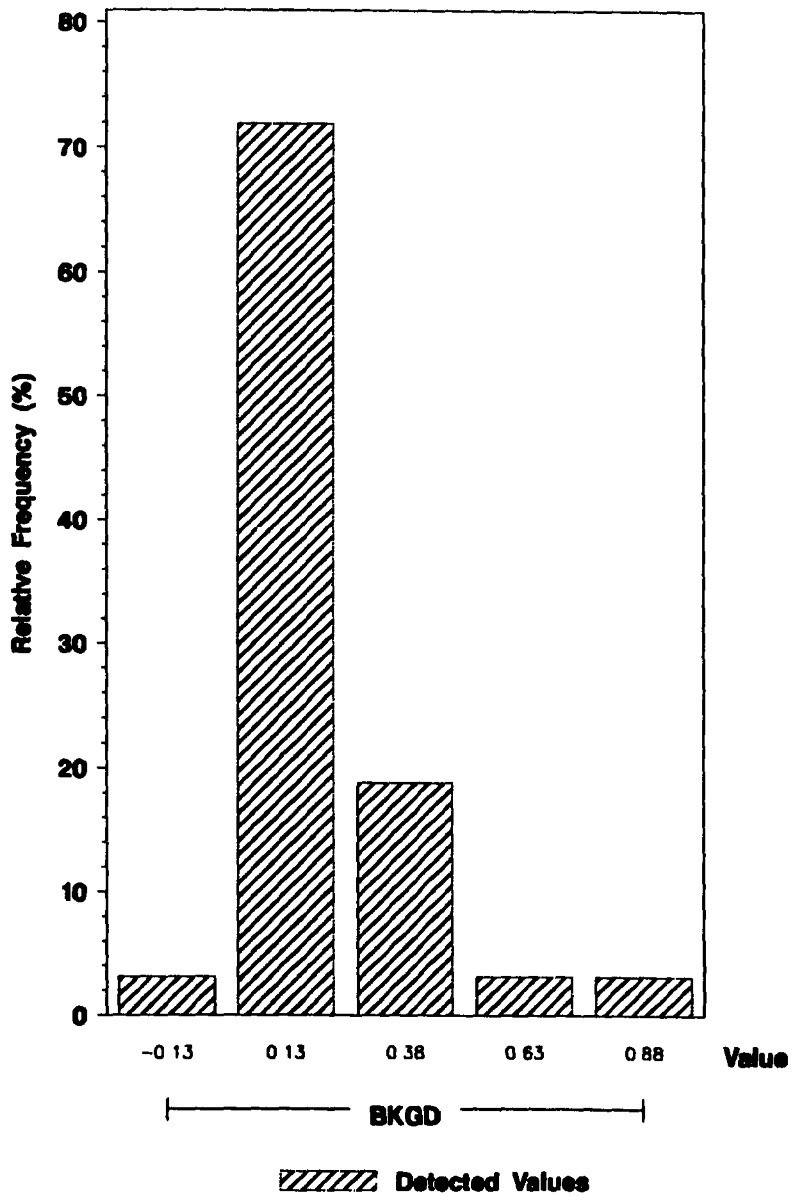
ANALYTE = PLUTONIUM – 239



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved PLUTONIUM-239/240 (pCi/L) in Surface Water

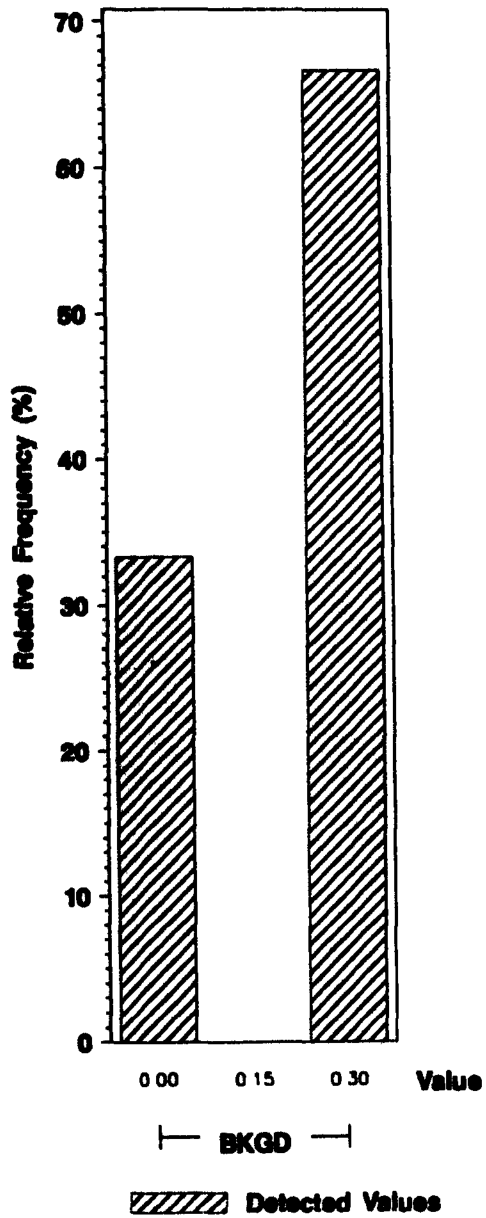
ANALYTE=PLUTONIUM-239/240



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved RADIUM-226 (pCi/L) in Surface Water

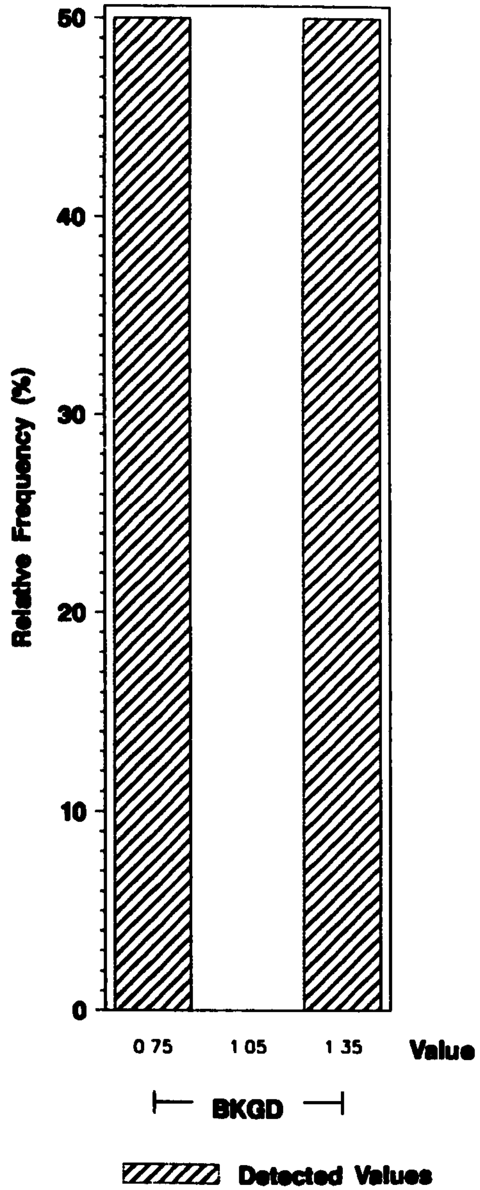
ANALYTE=RADIUM-226



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved RADIUM – 228 (pCi/L) in Surface Water

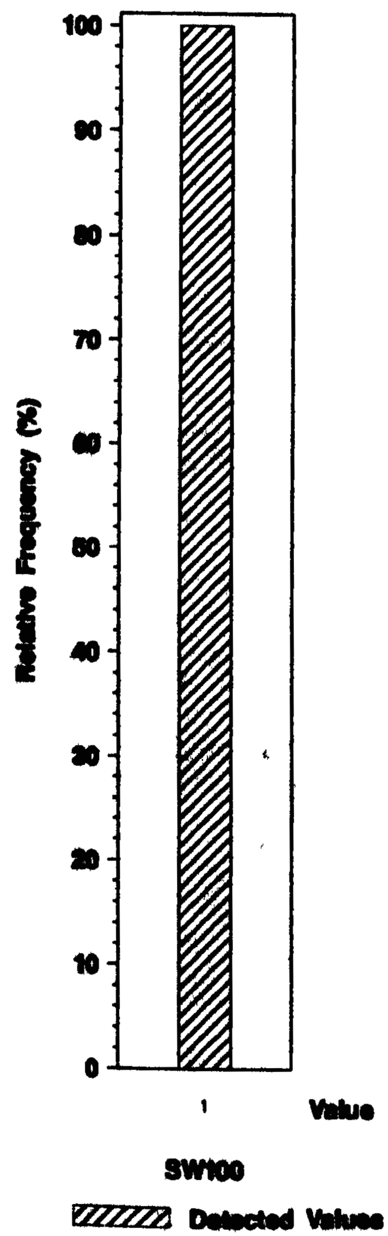
ANALYTE = RADIUM – 228



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved STRONTIUM – 89 (pCI/L) in Surface Water

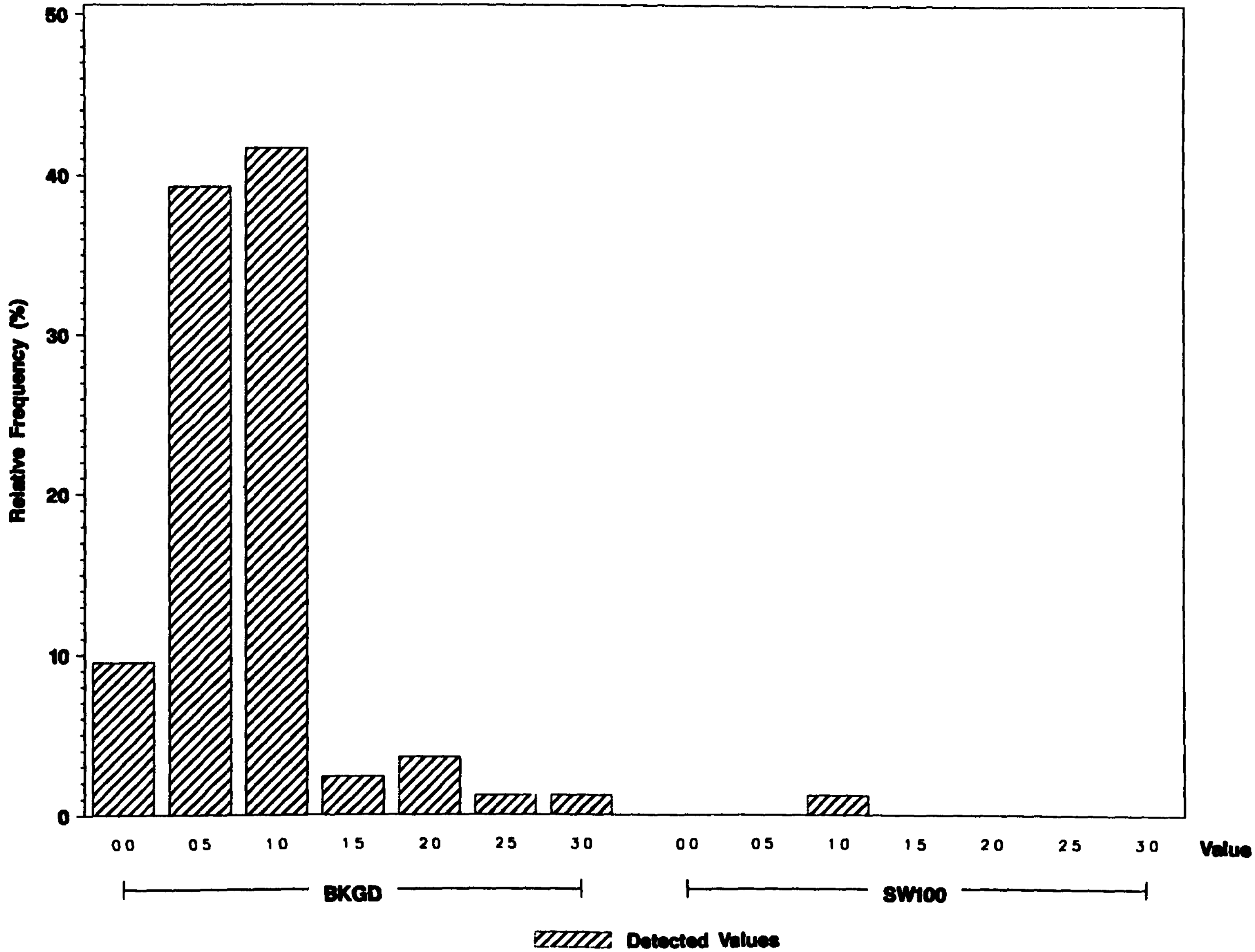
ANALYTE = STRONTIUM – 89



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved STRONTIUM – 89,90 (pCI/L) In Surface Water

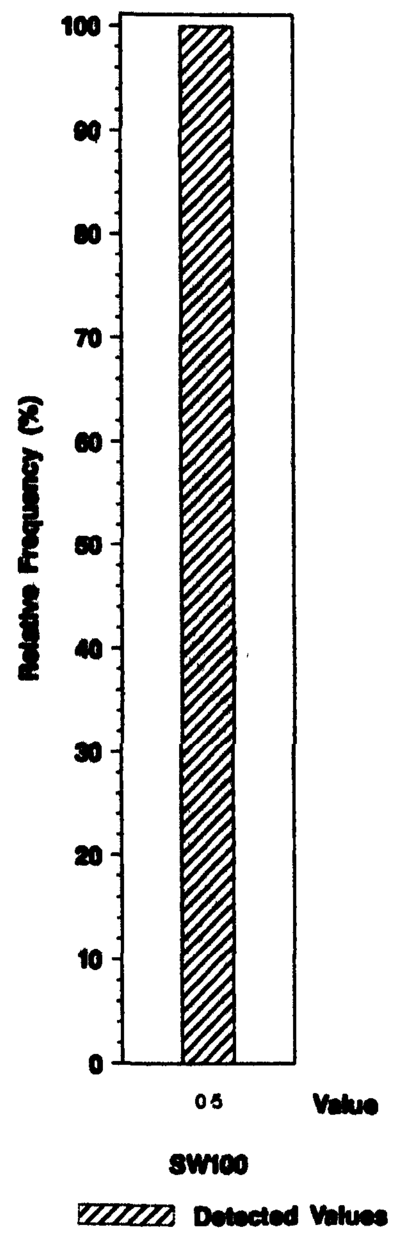
ANALYTE = STRONTIUM – 89,90



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved STRONTIUM-90 (pCi/L) in Surface Water

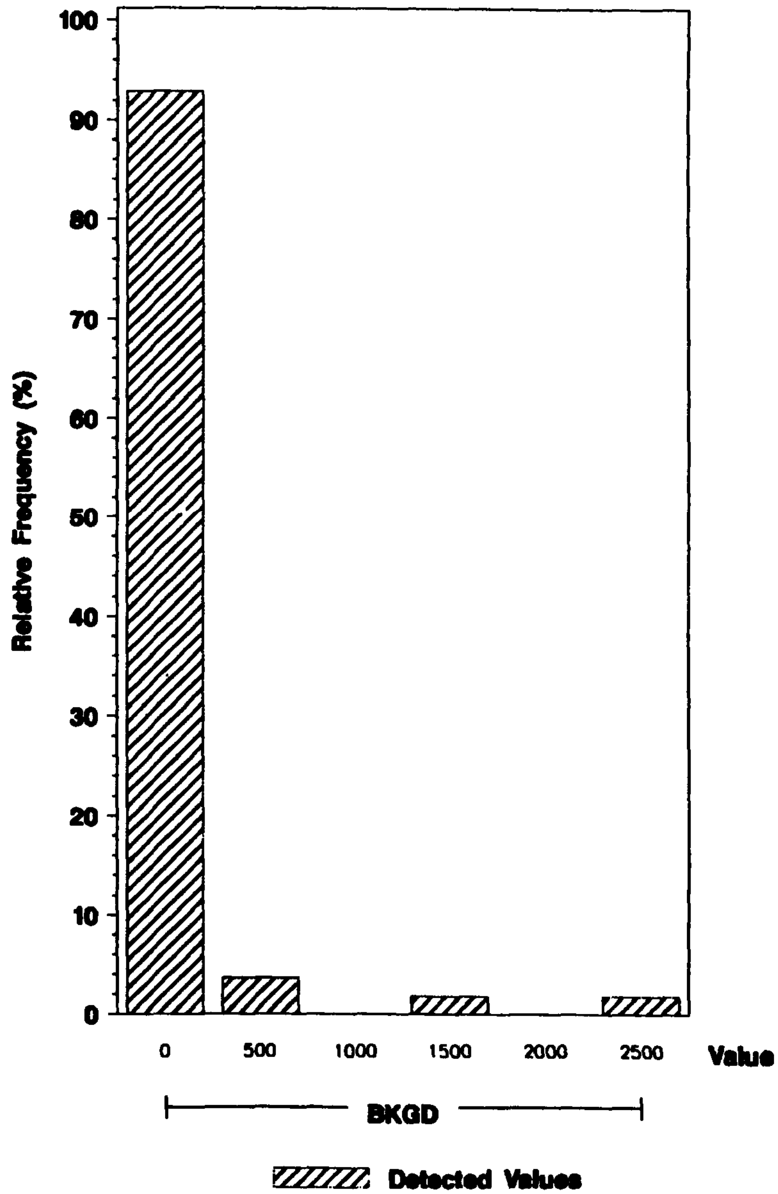
ANALYTE=STRONTIUM-90



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved TRITIUM (pCi/L) in Surface Water

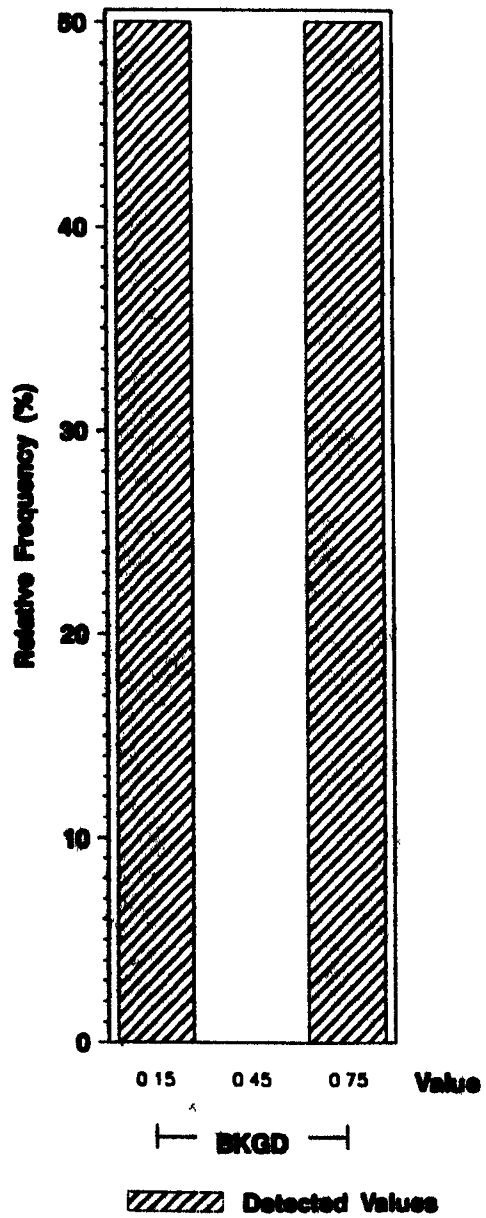
ANALYTE=TRITIUM



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved URANIUM, TOTAL (pCi/L) in Surface Water

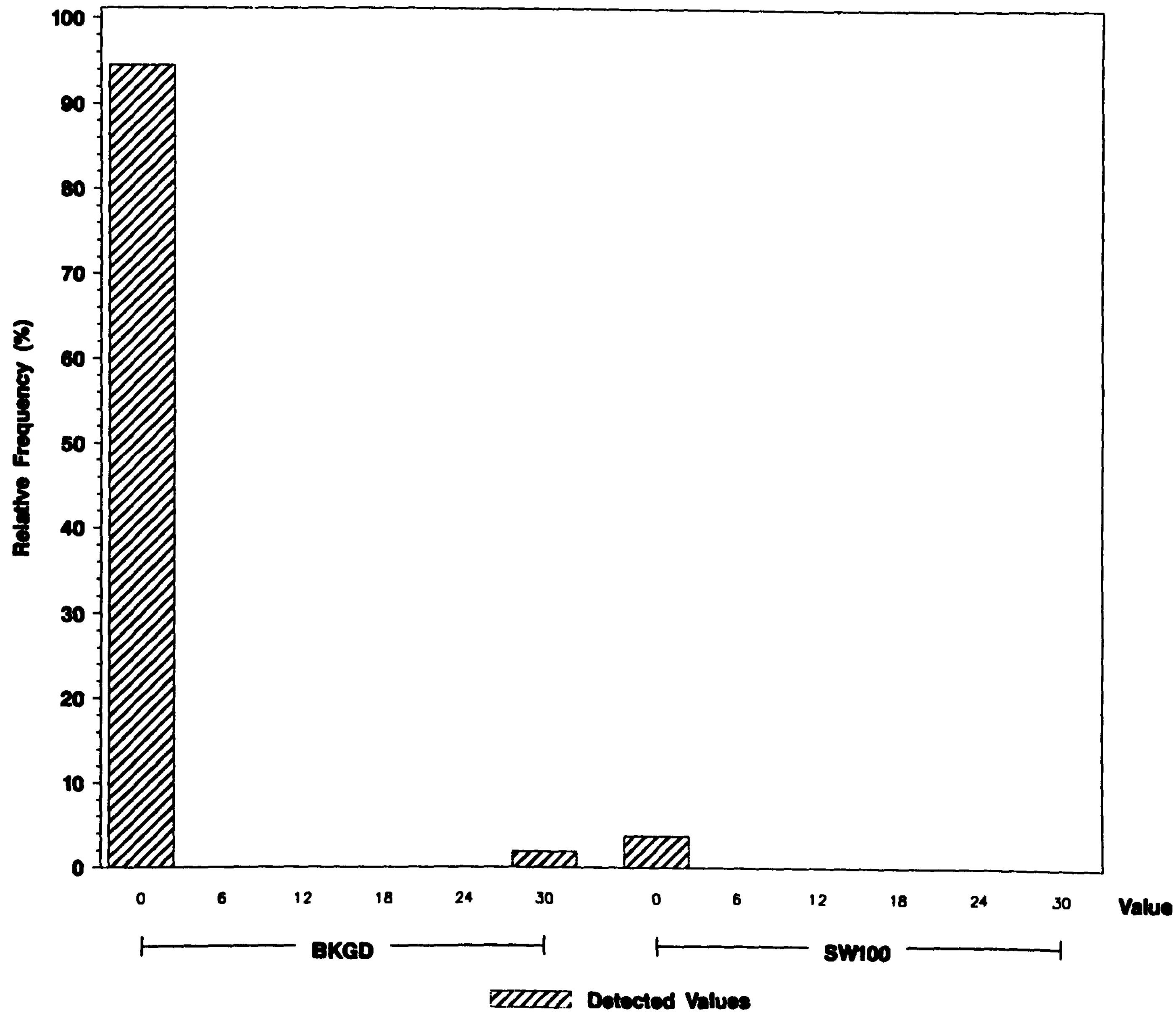
ANALYTE=URANIUM, TOTAL



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved URANIUM-233,-234 (pCi/L) in Surface Water

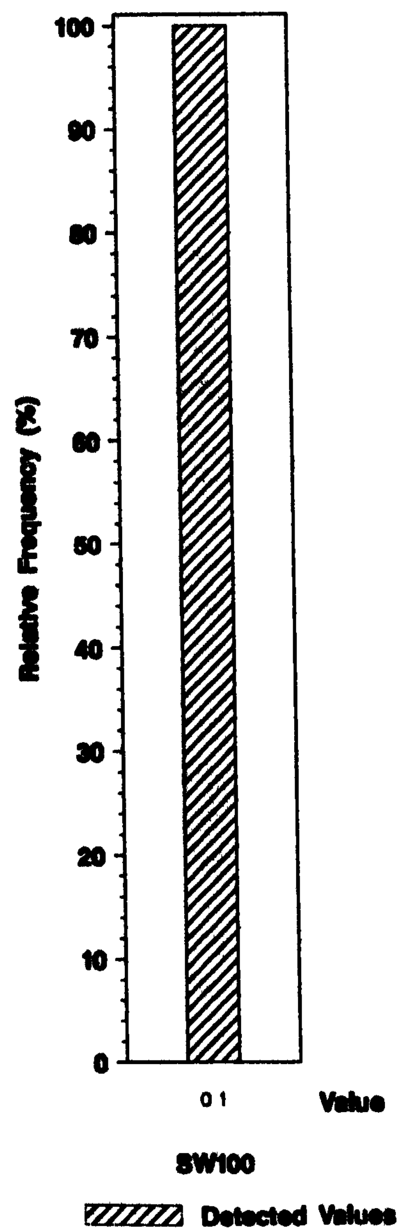
ANALYTE=URANIUM-233,-234



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved URANIUM – 234 (pCi/L) In Surface Water

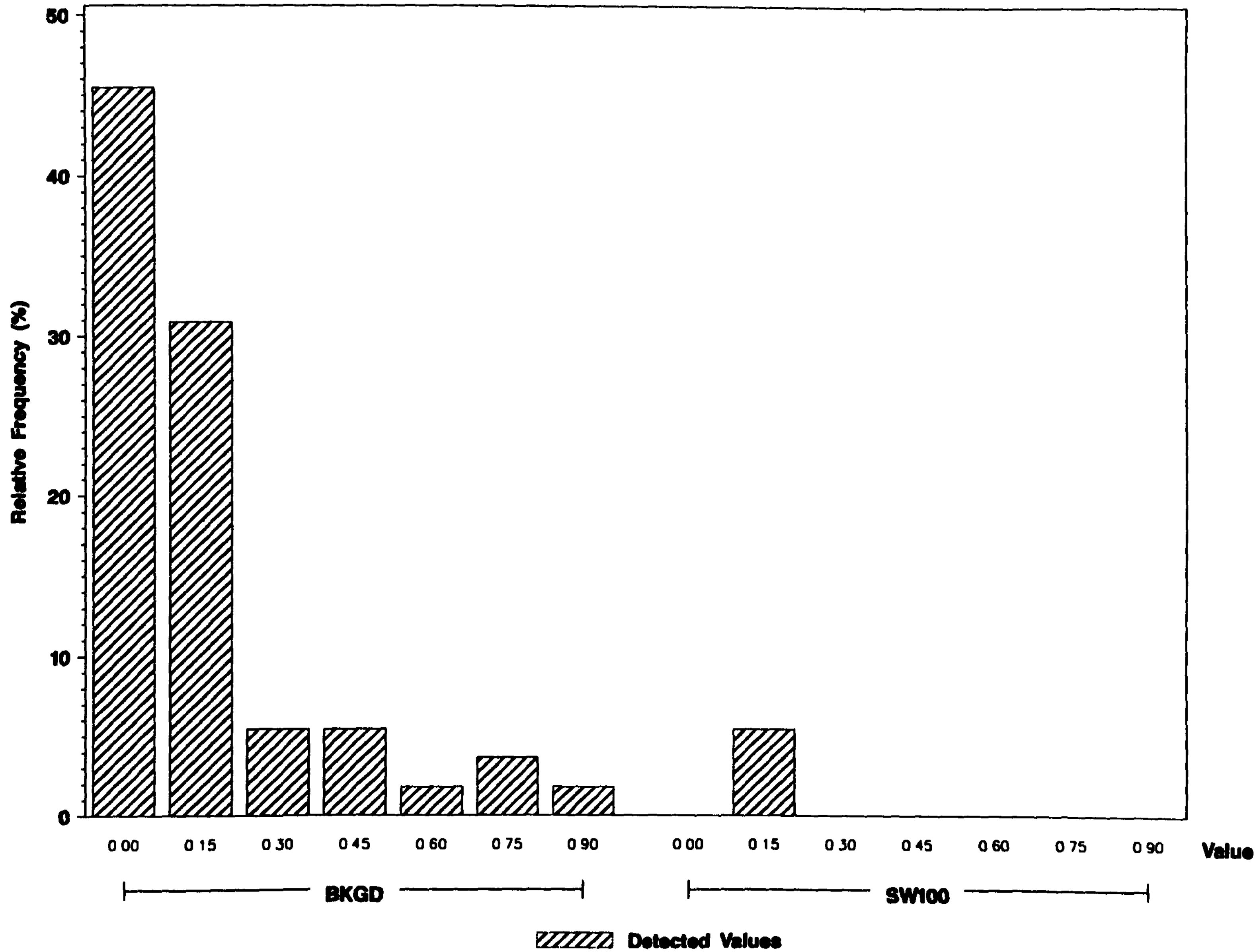
ANALYTE = URANIUM – 234



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved URANIUM – 235 (pCi/L) in Surface Water

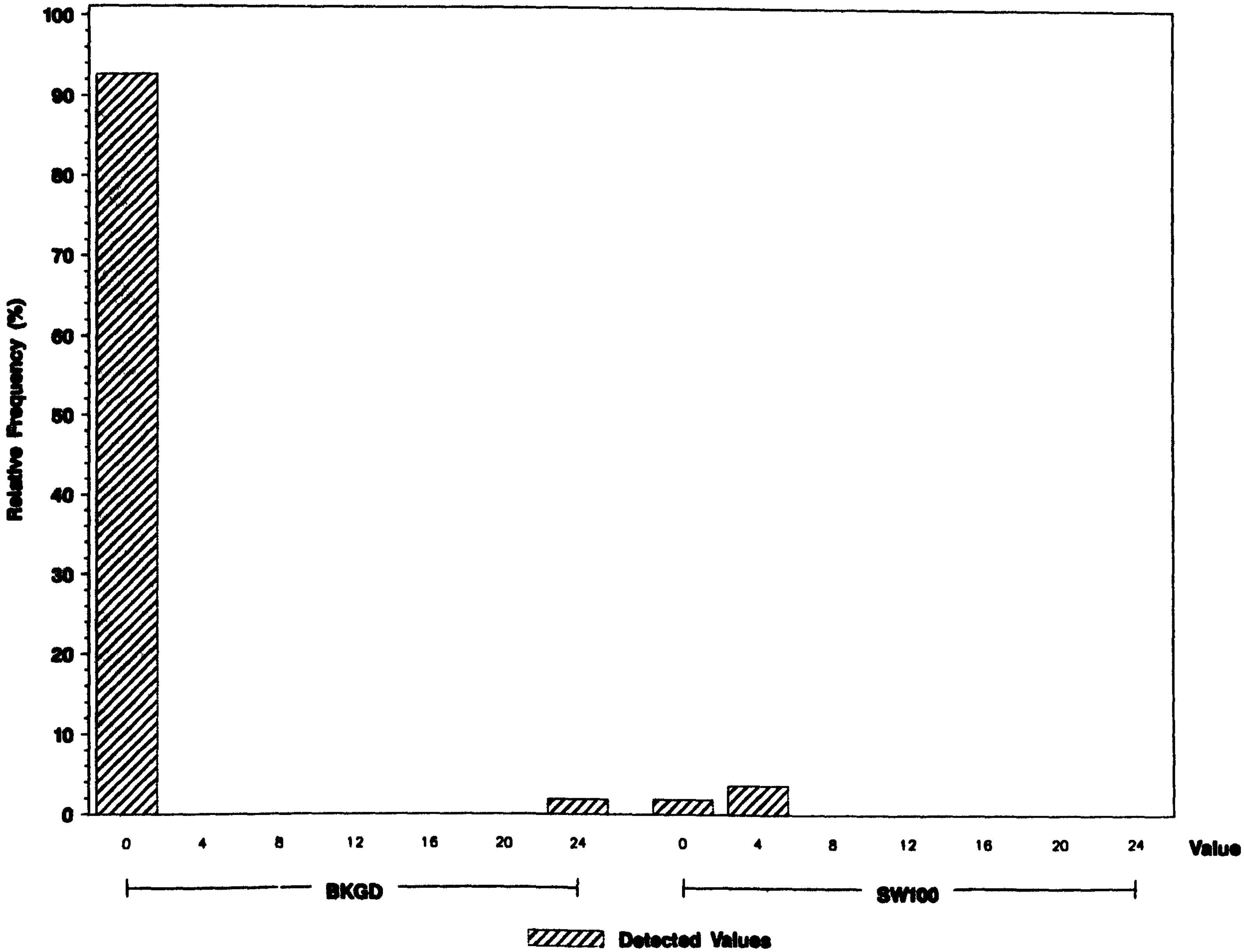
ANALYTE = URANIUM – 235



Background vs OU7 Surface Water (SW100) Frequency Histogram

Dissolved URANIUM-238 (pCi/L) in Surface Water

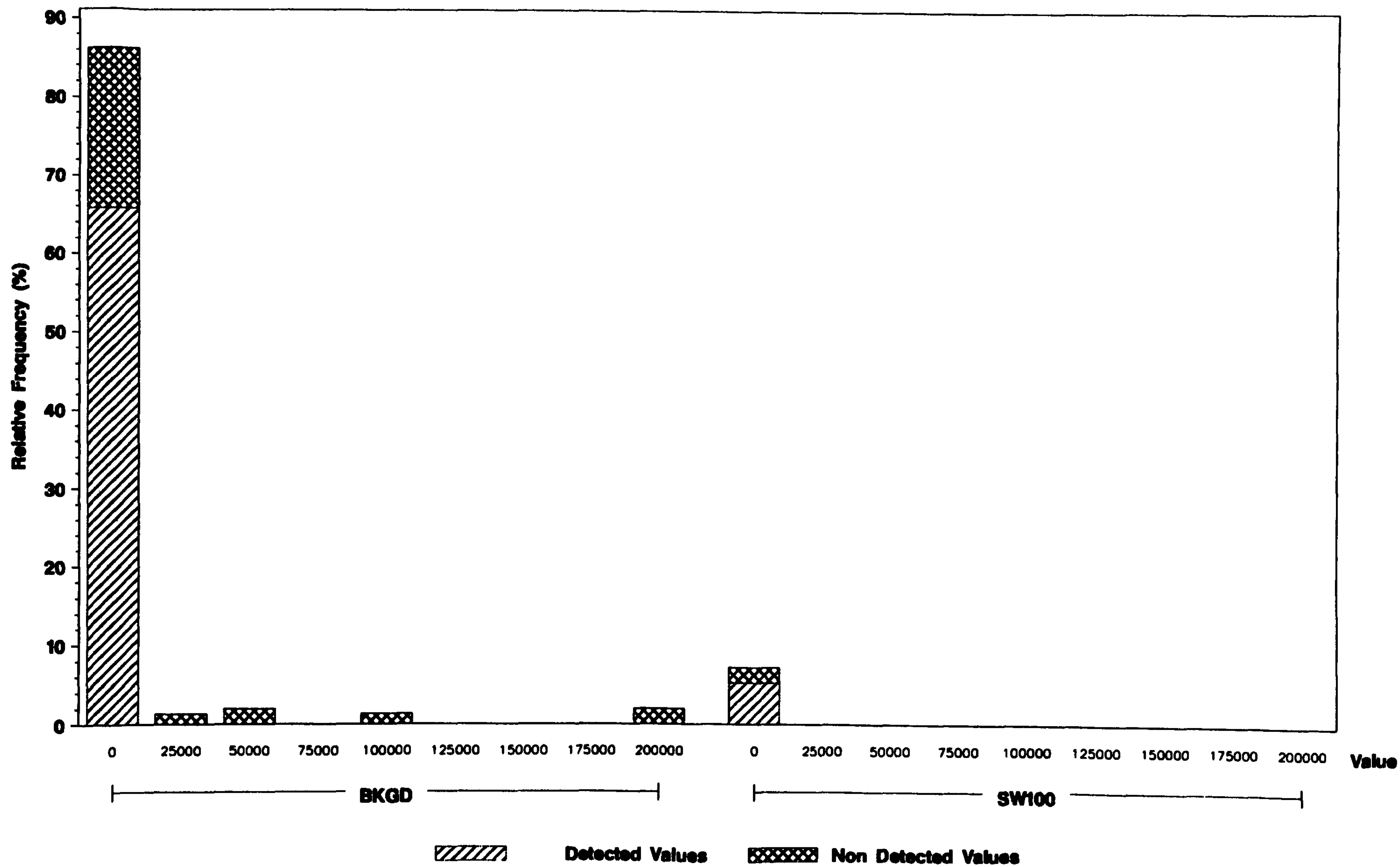
ANALYTE=URANIUM-238



Background vs OU7 Surface Water Frequency Histogram

Dissolved BARIUM (ug/L) In Surface Water

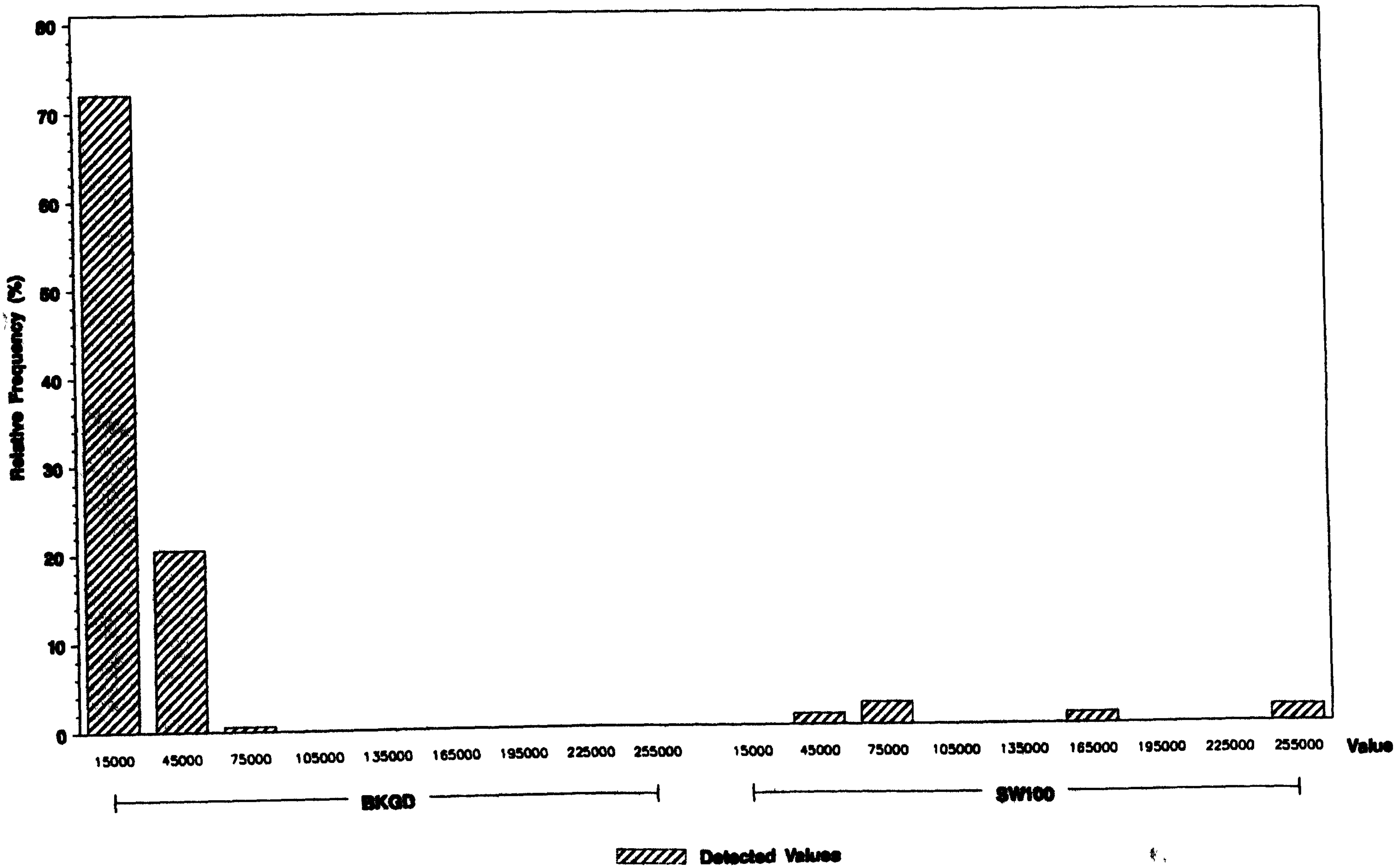
ANALYTE=BARIUM



Background vs OU7 Surface Water Frequency Histogram

Dissolved CALCIUM (ug/L) In Surface Water

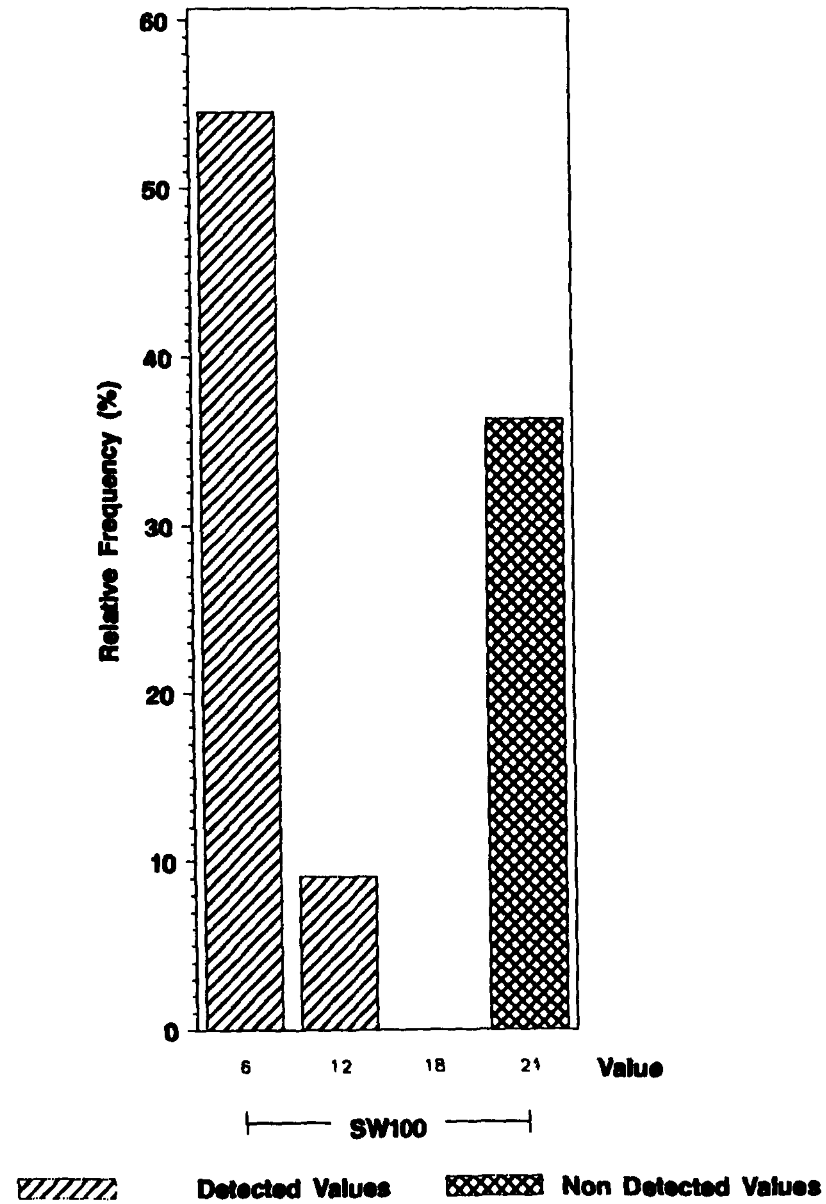
ANALYTE=CALCIUM



Background vs OU7 Surface Water Frequency Histogram

Dissolved COPPER (ug/L) in Surface Water

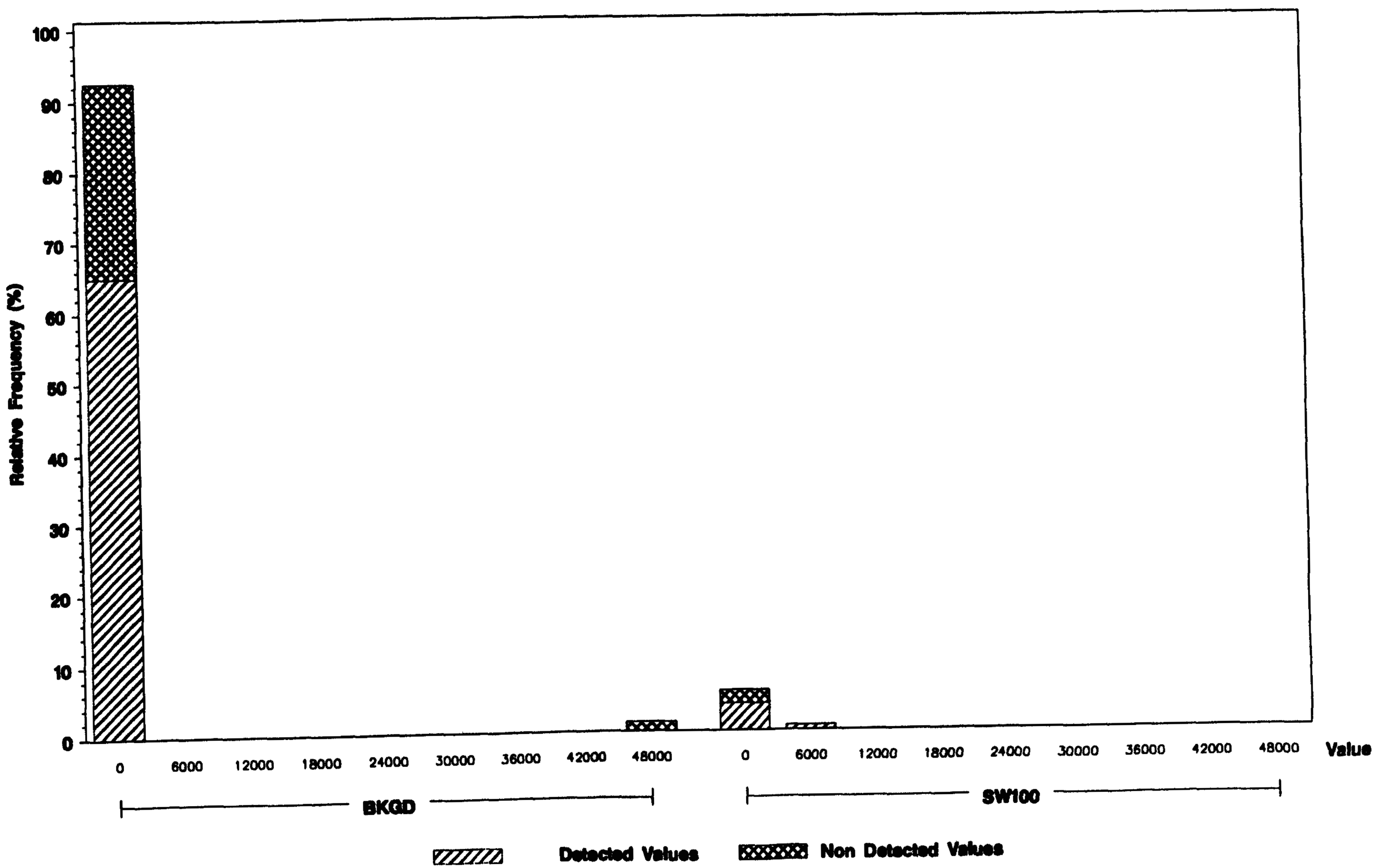
ANALYTE=COPPER



Background vs OU7 Surface Water Frequency Histogram

Dissolved IRON (ug/L) In Surface Water

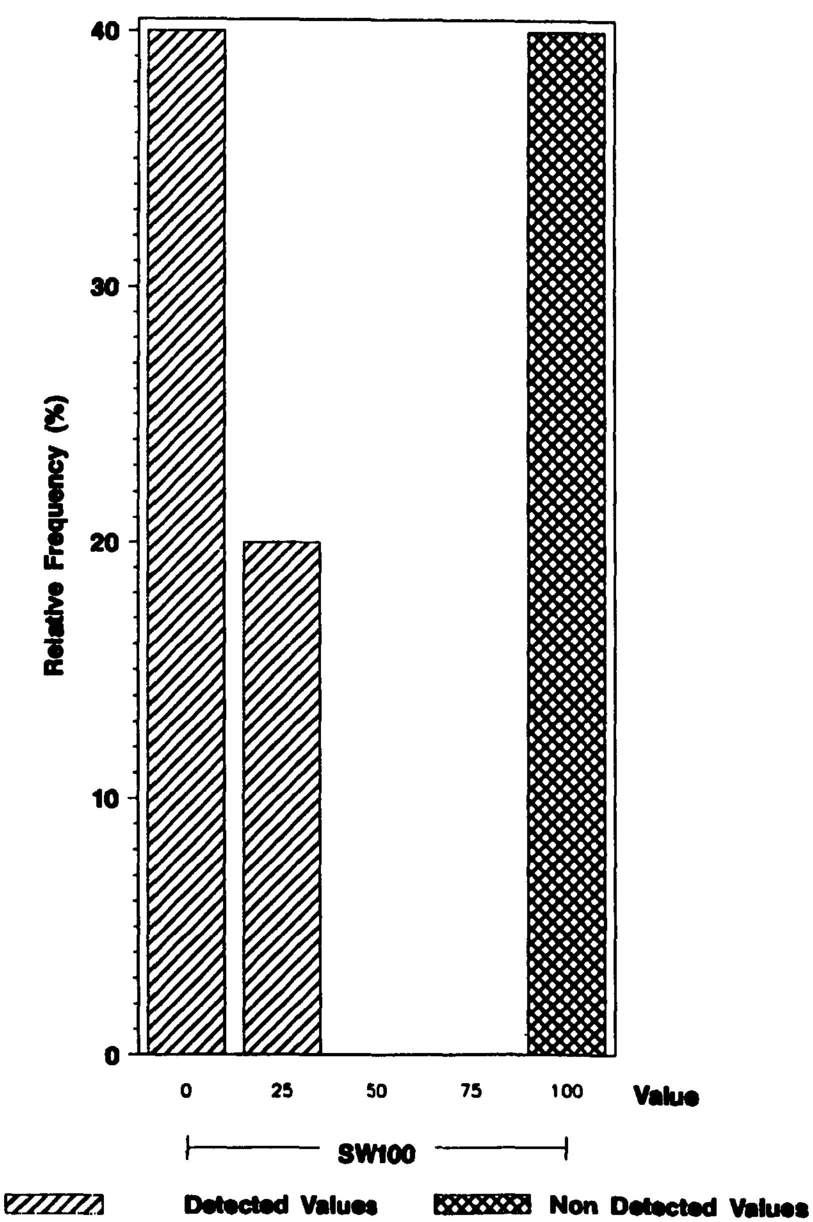
ANALYTE=IRON



Background vs OU7 Surface Water Frequency Histogram

Dissolved LITHIUM (ug/L) in Surface Water

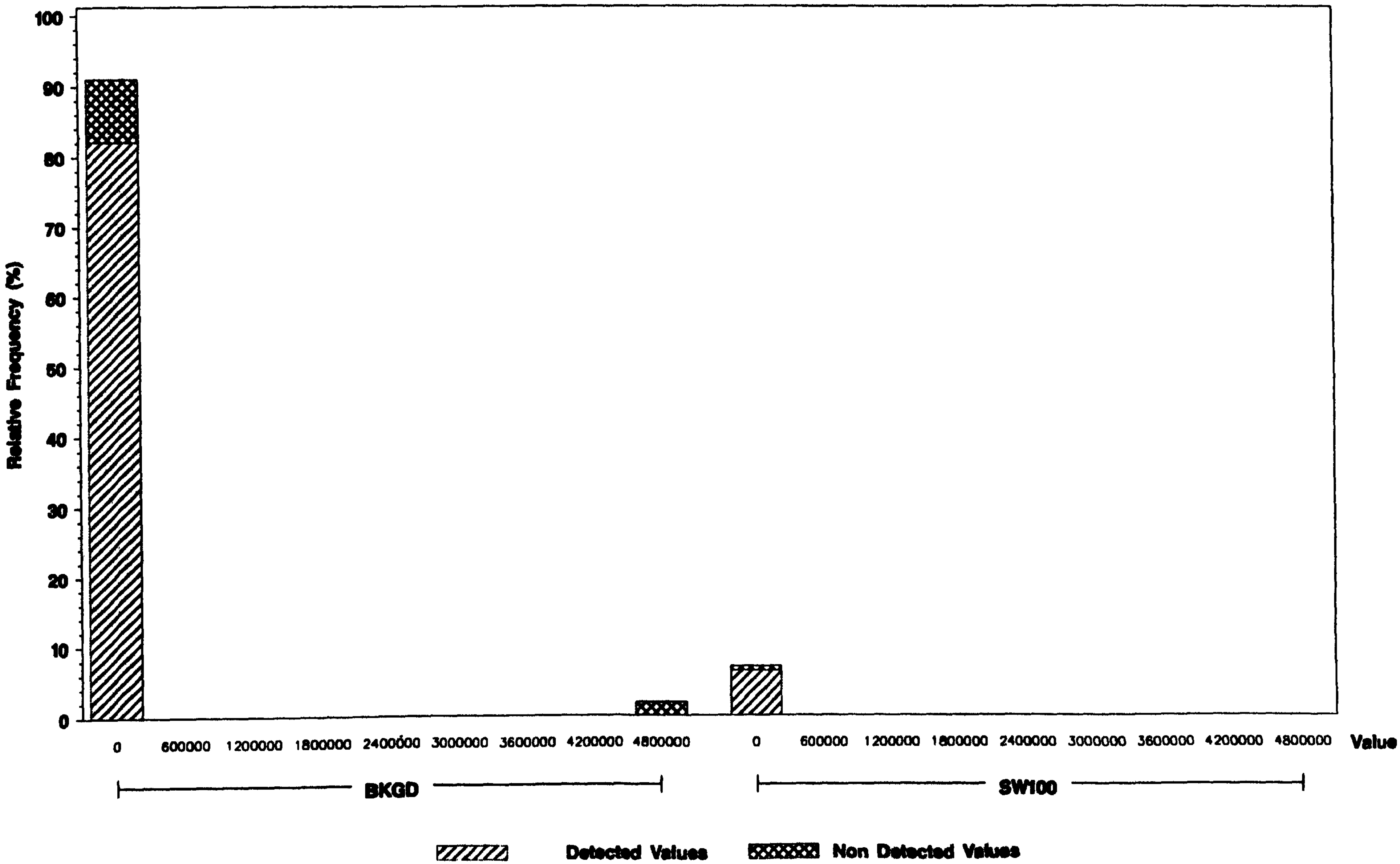
ANALYTE=LITHIUM



Background vs OU7 Surface Water Frequency Histogram

Dissolved MAGNESIUM (ug/L) in Surface Water

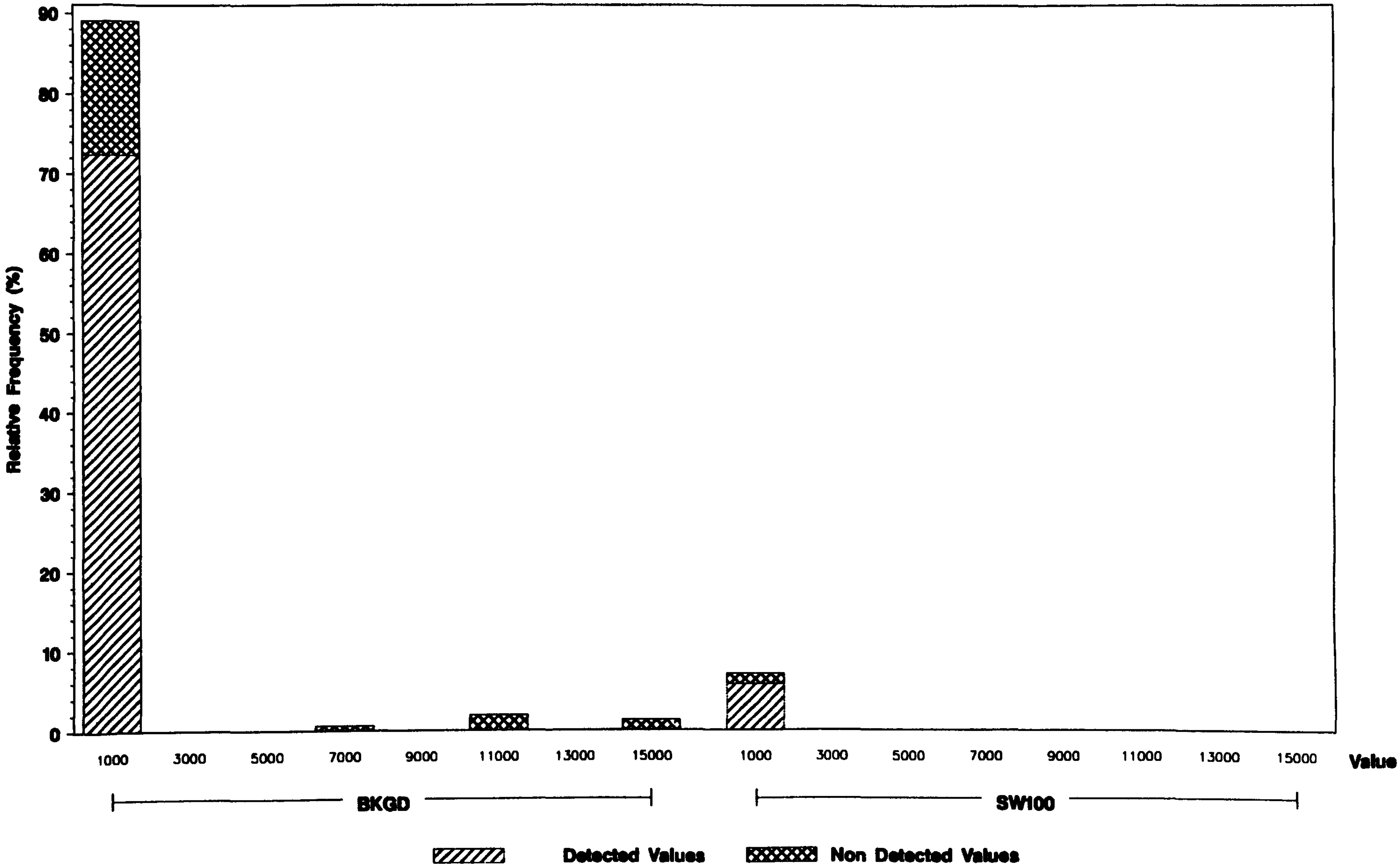
ANALYTE = MAGNESIUM



Background vs OU7 Surface Water Frequency Histogram

Dissolved MANGANESE (ug/L) in Surface Water

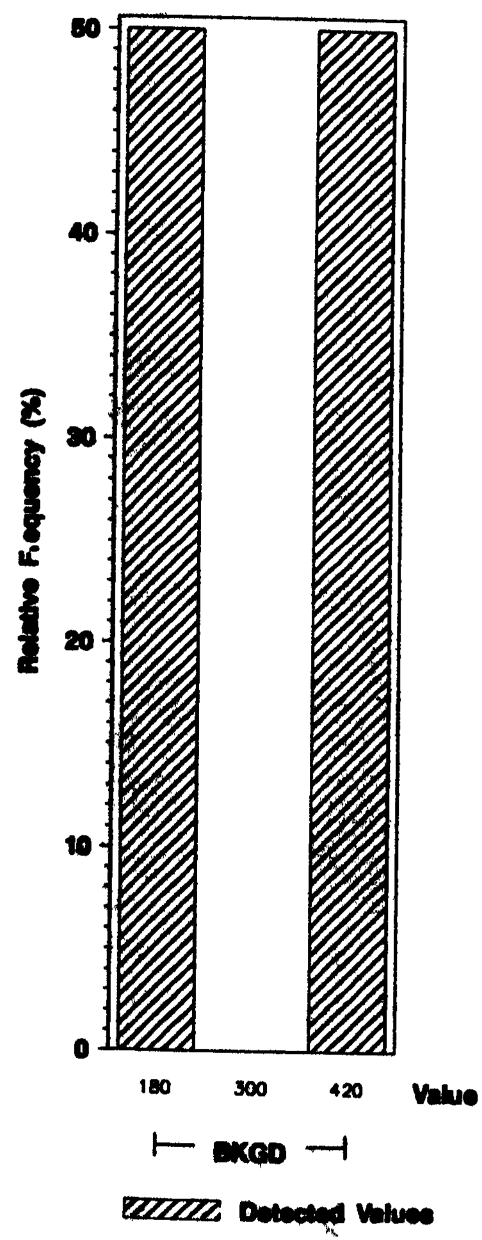
ANALYTE=MANGANESE



Background vs OU7 Surface Water Frequency Histogram

Dissolved PHOSPHORUS (ug/L) in Surface Water

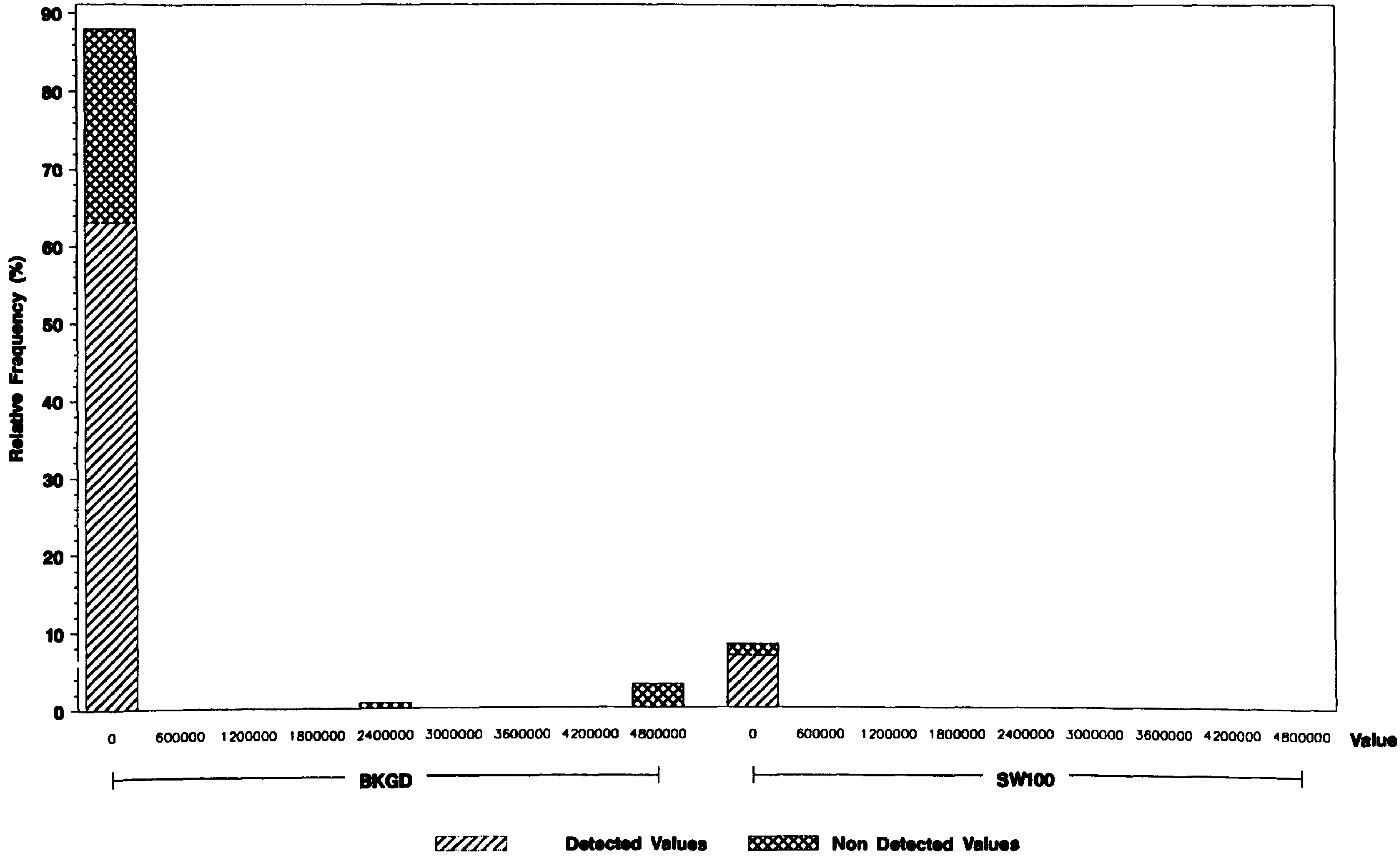
ANALYTE=PHOSPHORUS



Background vs OU7 Surface Water Frequency Histogram

Dissolved POTASSIUM (ug/L) in Surface Water

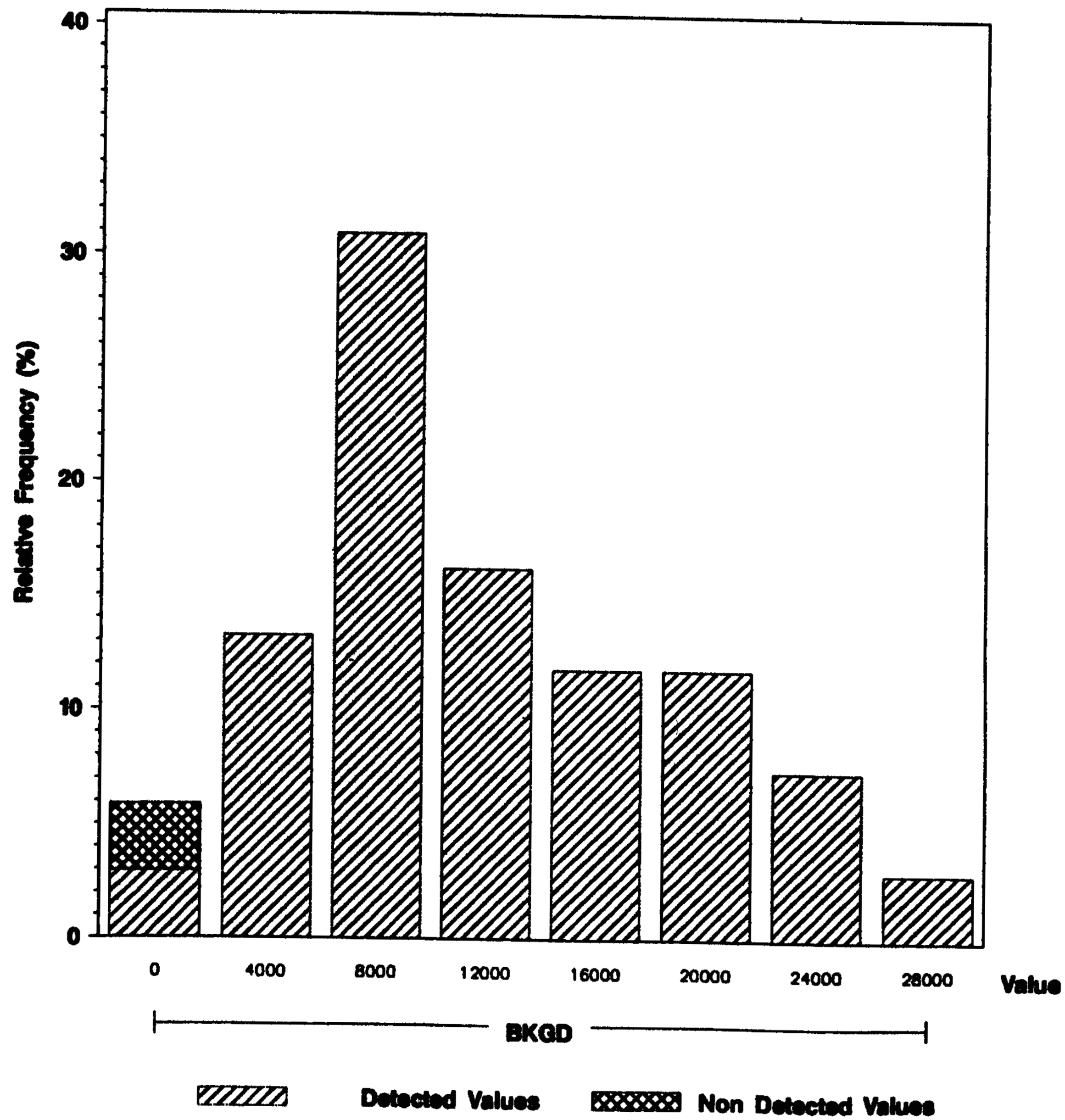
ANALYTE = POTASSIUM



Background vs OU7 Surface Water Frequency Histogram

Dissolved SILICA (ug/L) In Surface Water

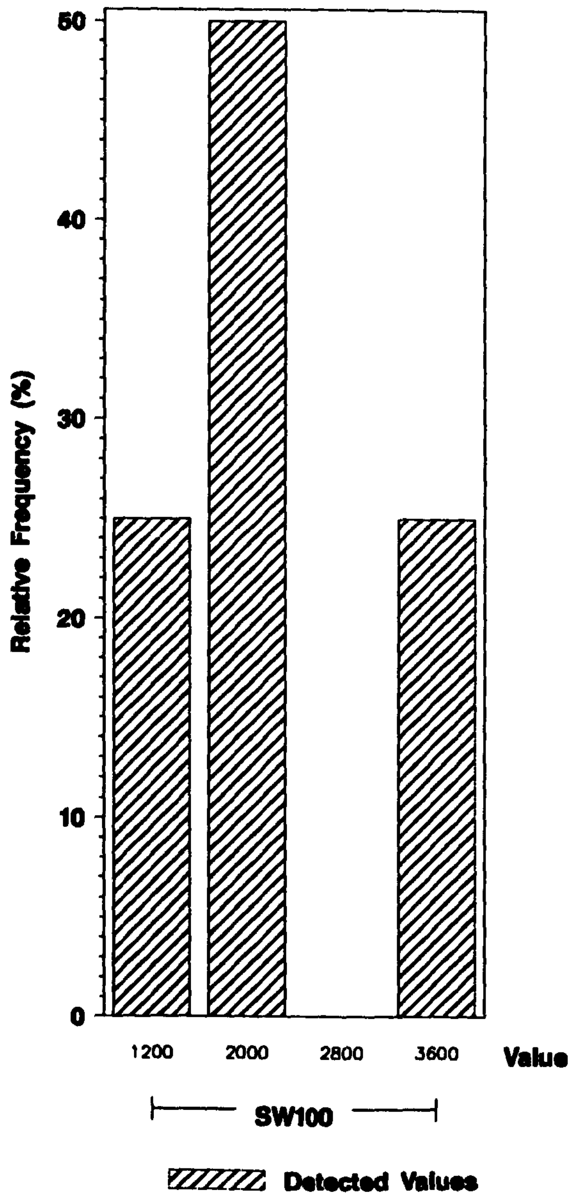
ANALYTE=SILICA



Background vs OU7 Surface Water Frequency Histogram

Dissolved SILICON (ug/L) in Surface Water

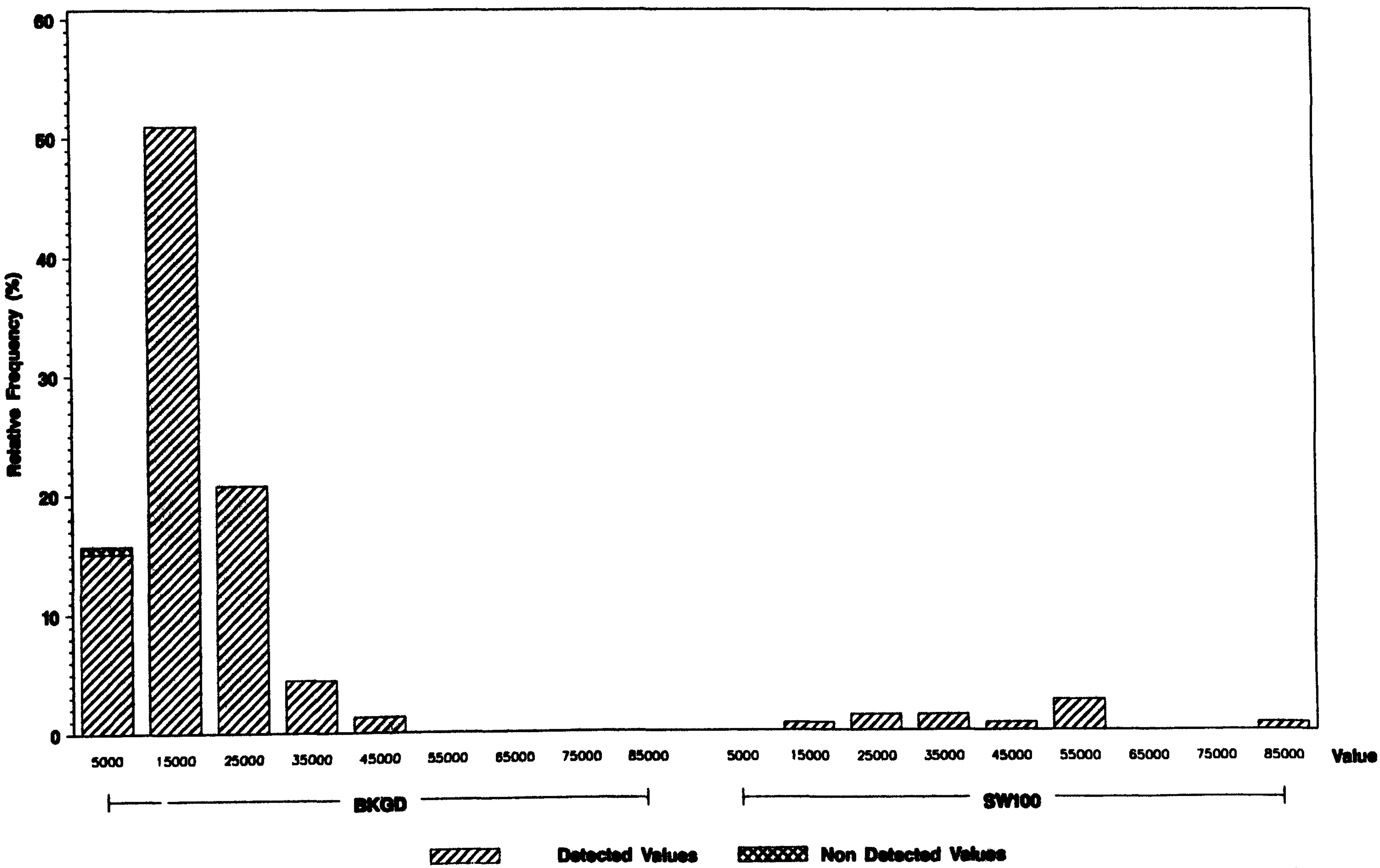
ANALYTE=SILICON



Background vs OU7 Surface Water Frequency Histogram

Dissolved SODIUM (ug/L) in Surface Water

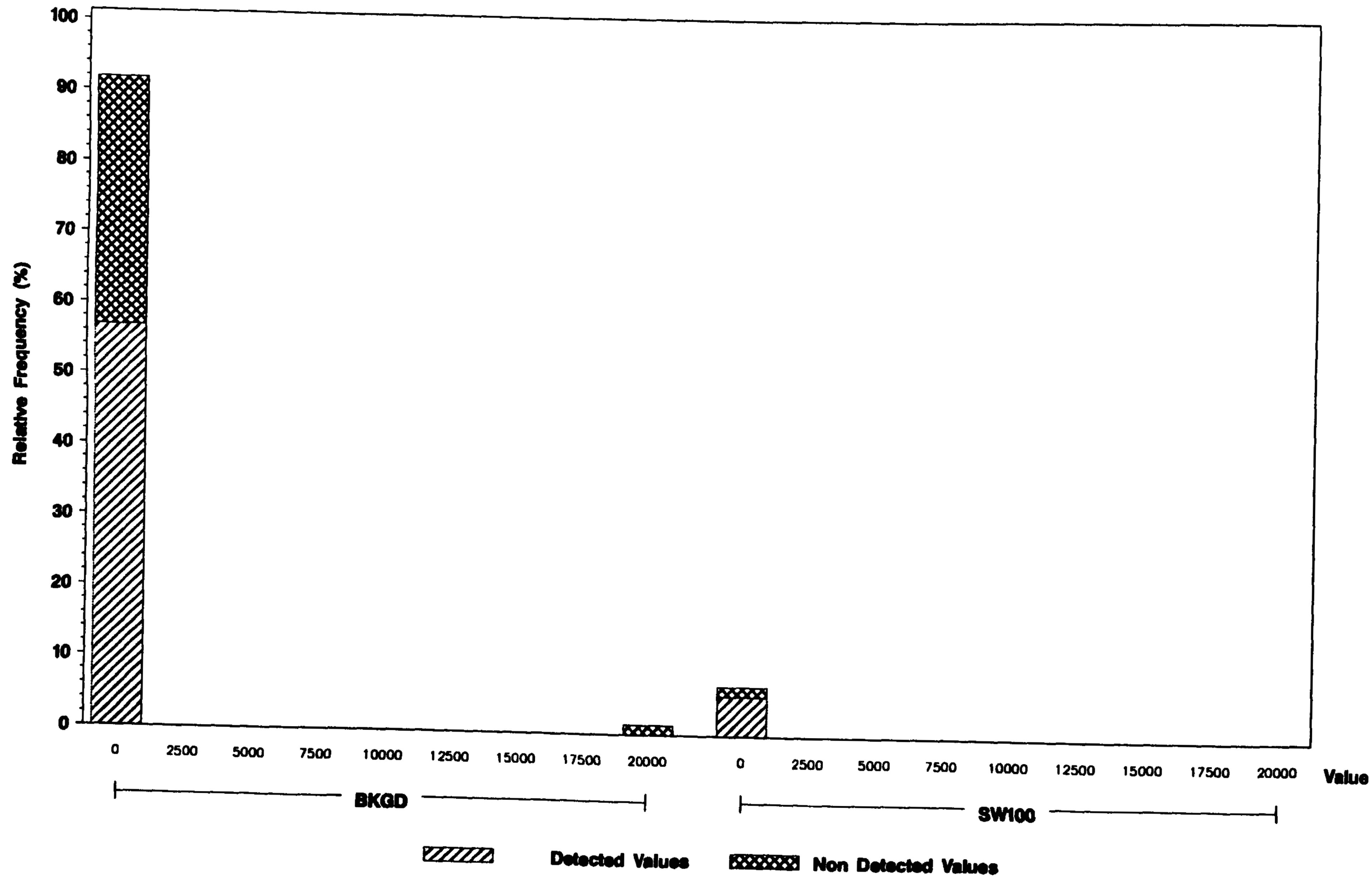
ANALYTE=SODIUM



Background vs OU7 Surface Water Frequency Histogram

Dissolved ZINC (ug/L) in Surface Water

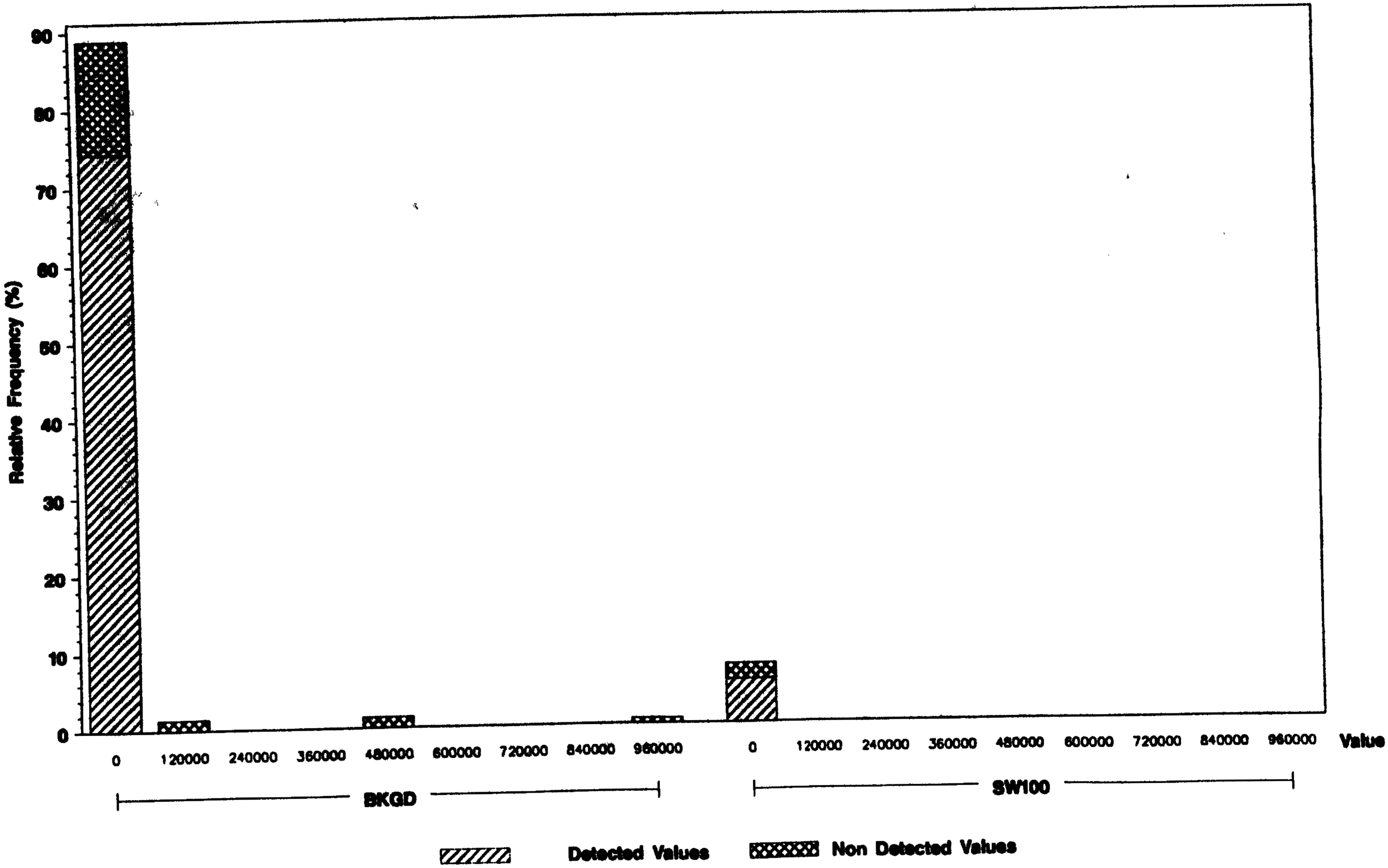
ANALYTE=ZINC



Background vs OU7 Surface Water Frequency Histogram

Dissolved STRONTIUM (ug/L) in Surface Water

ANALYTE=STRONTIUM



Surface Water

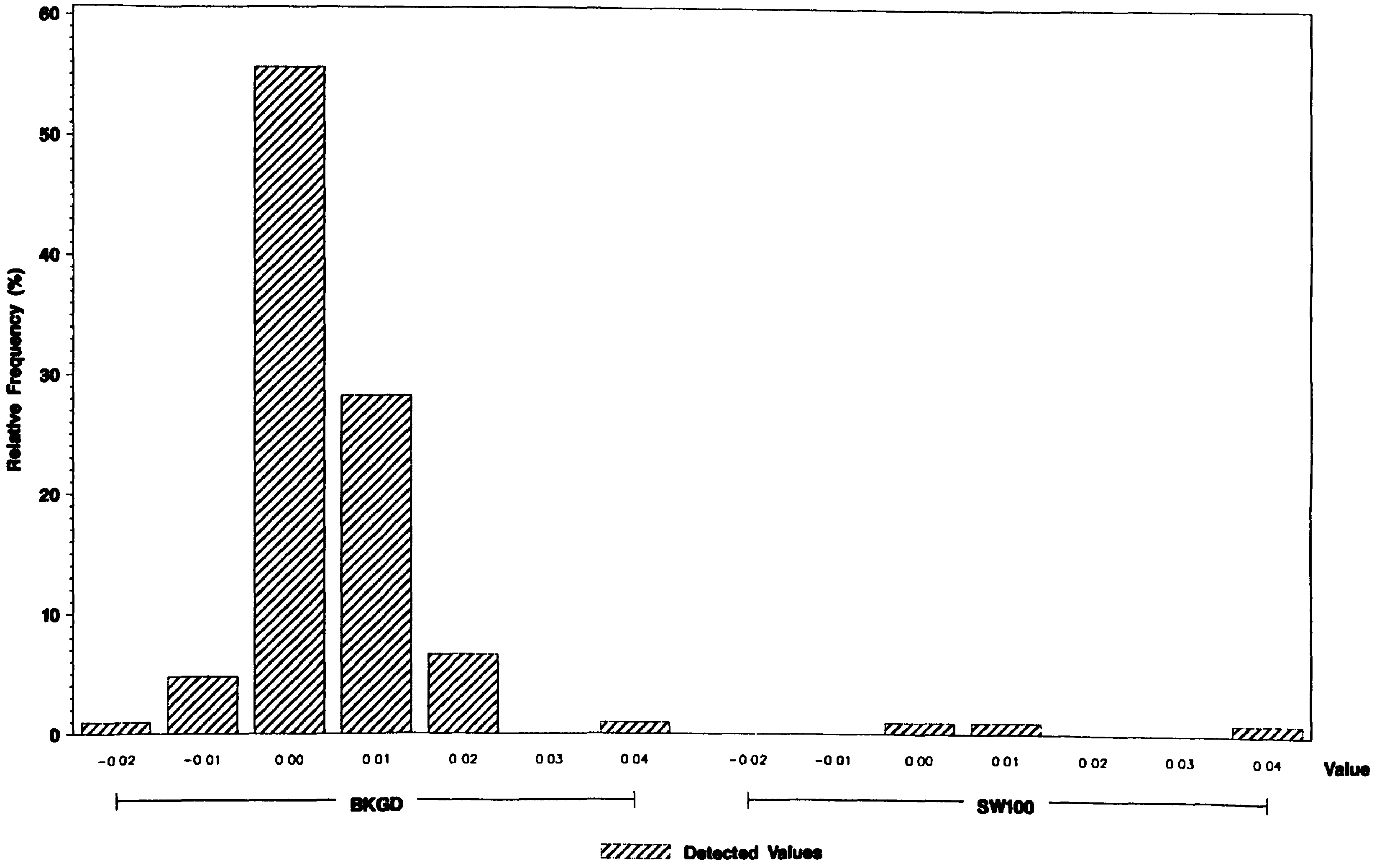
(Total)

Background vs OU 7 (SW100)

Background vs OU7 Surface Water (SW100) Frequency Histogram

Total AMERICIUM-241 (pCi/L) in Surface Water

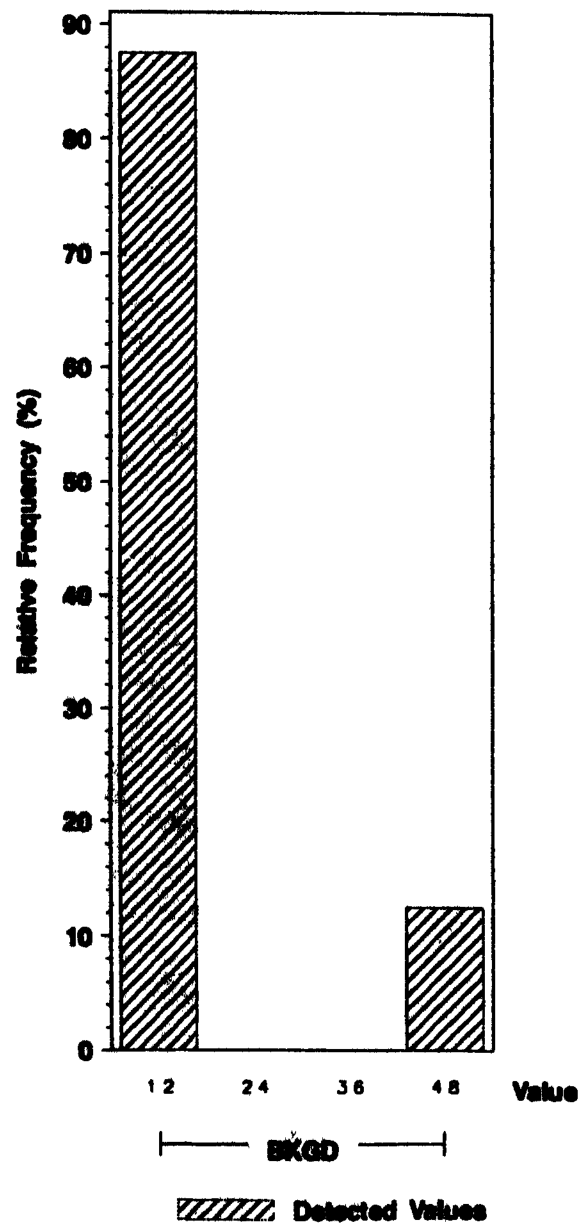
ANALYTE=AMERICIUM-241



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total CESIUM – 134 (pCi/L) in Surface Water

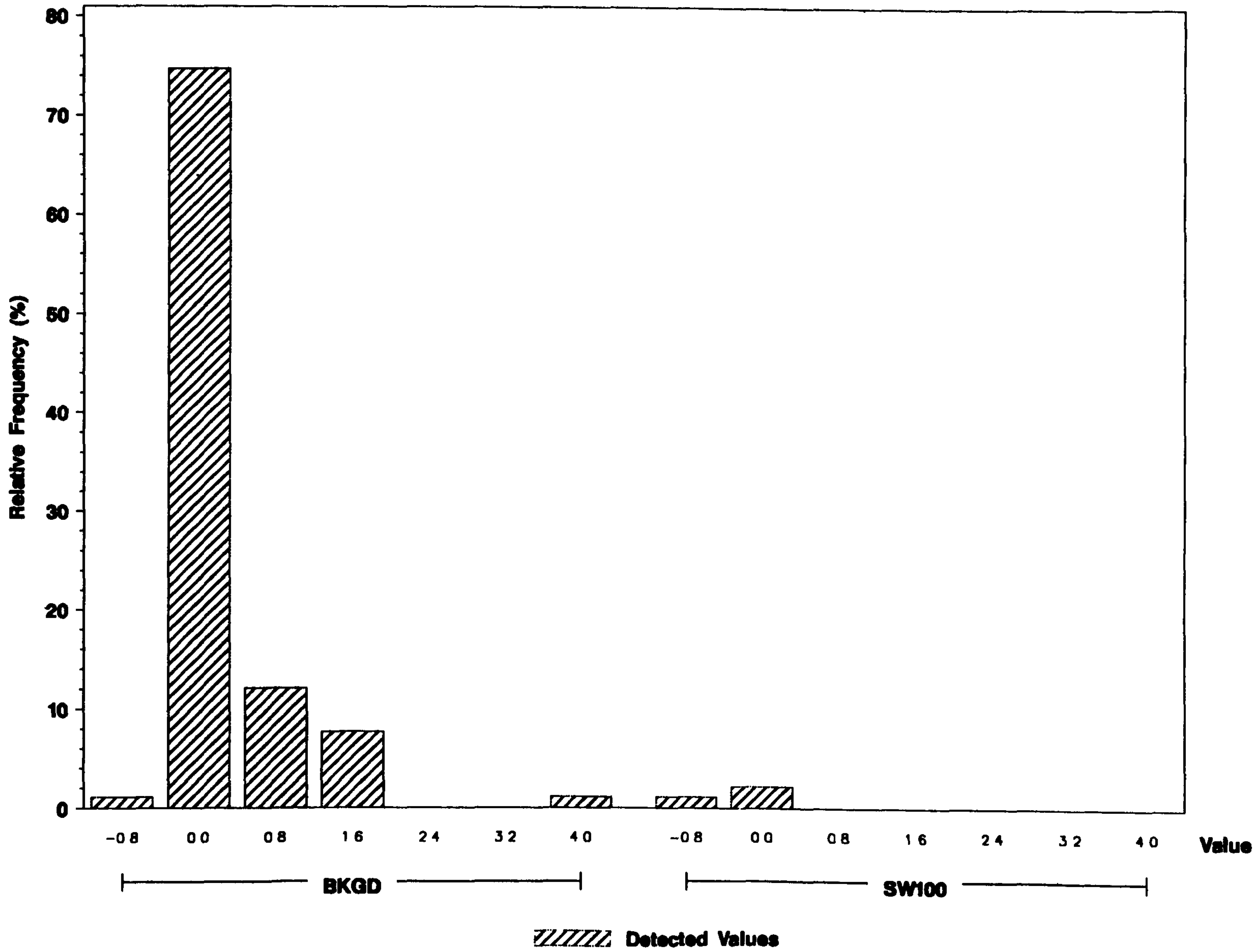
ANALYTE = CESIUM – 134



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total CESIUM−137 (pCi/L) in Surface Water

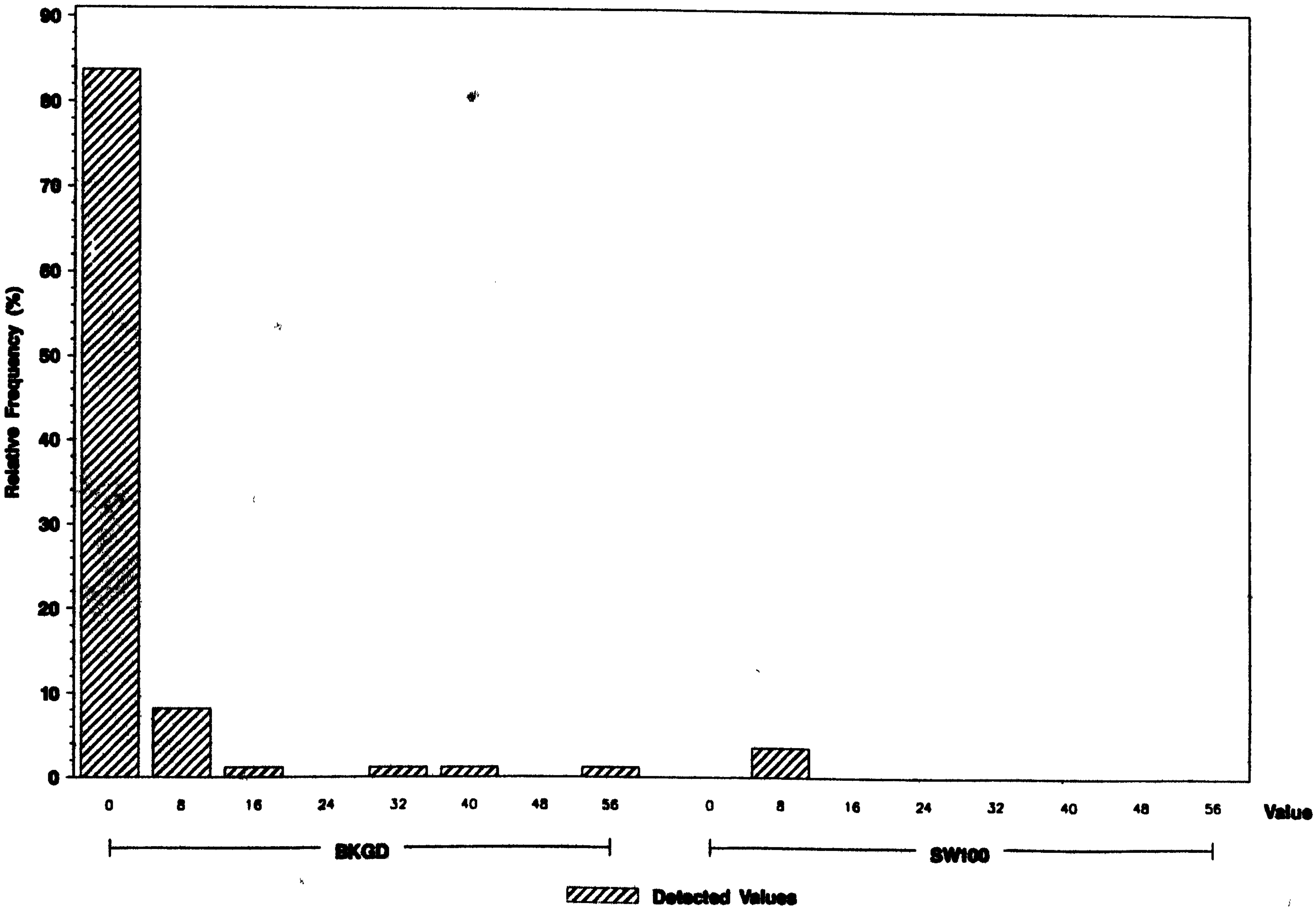
ANALYTE=CESIUM−137



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total GROSS ALPHA (pCI/L) In Surface Water

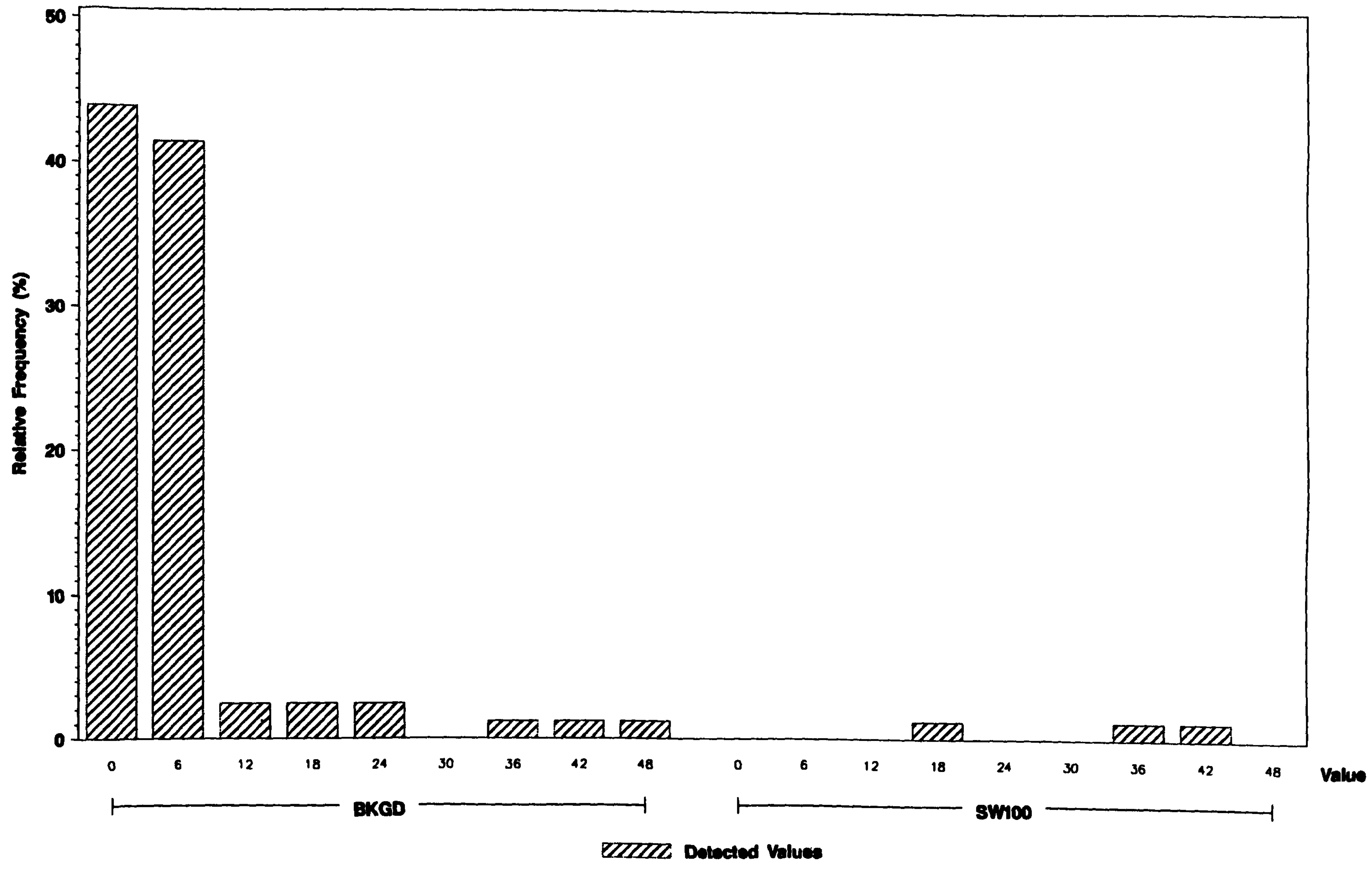
ANALYTE = GROSS ALPHA



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total GROSS BETA (pCi/L) In Surface Water

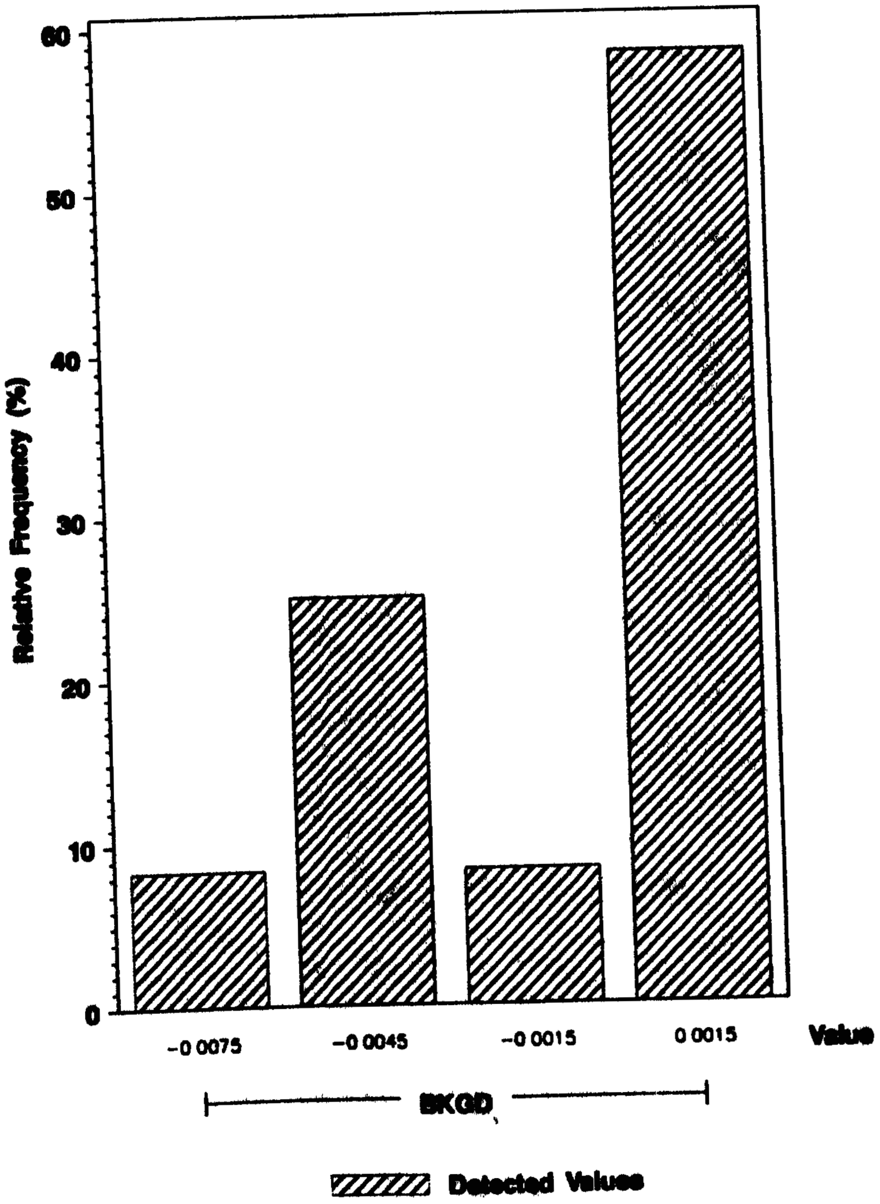
ANALYTE=GROSS BETA



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total PLUTONIUM – 236 (pCi/L) In Surface Water

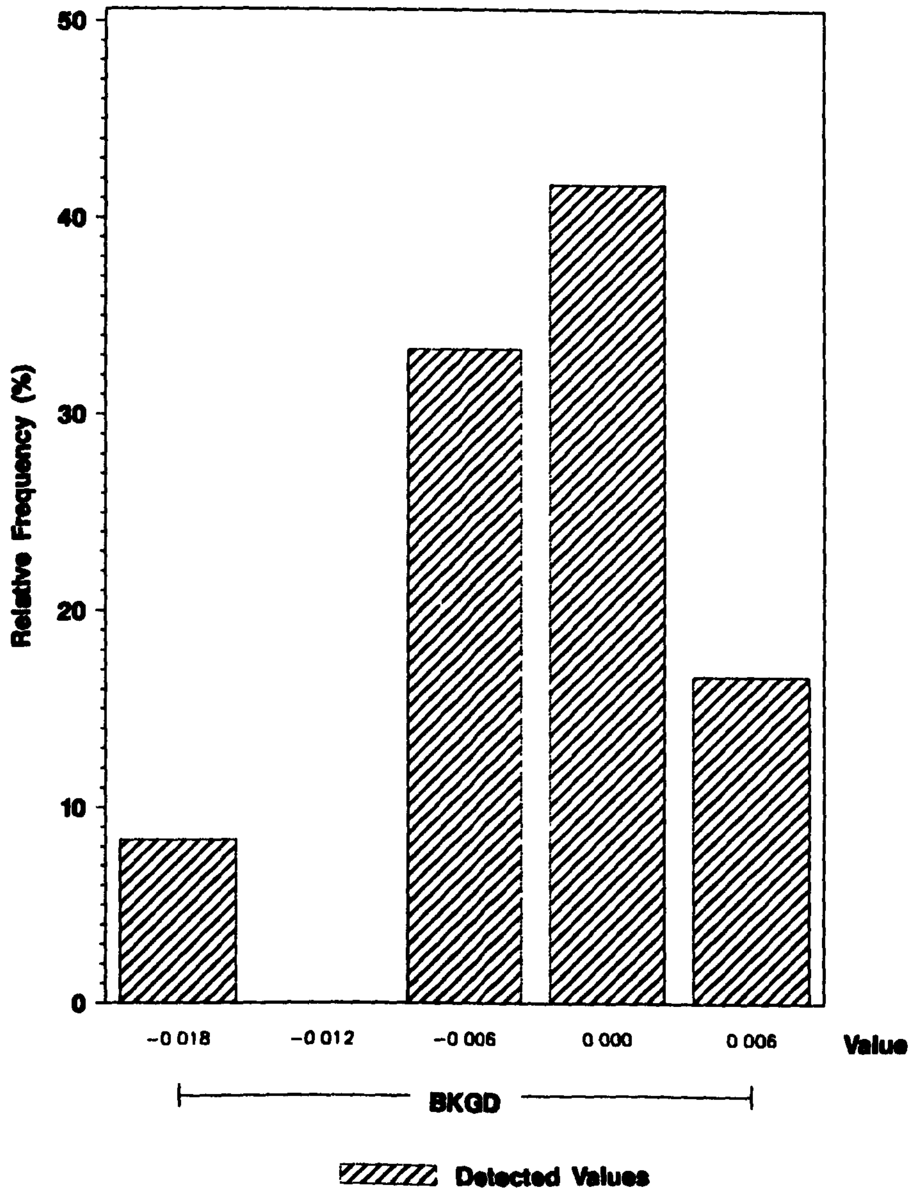
ANALYTE = PLUTONIUM – 236



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total PLUTONIUM - 238 (pCi/L) in Surface Water

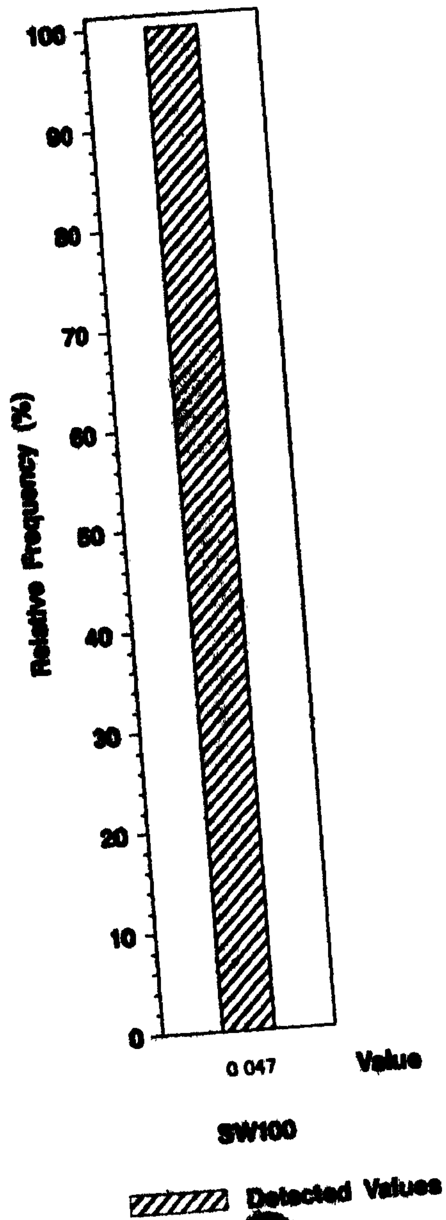
ANALYTE = PLUTONIUM - 238



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total PLUTONIUM−239 (pCi/L) In Surface Water

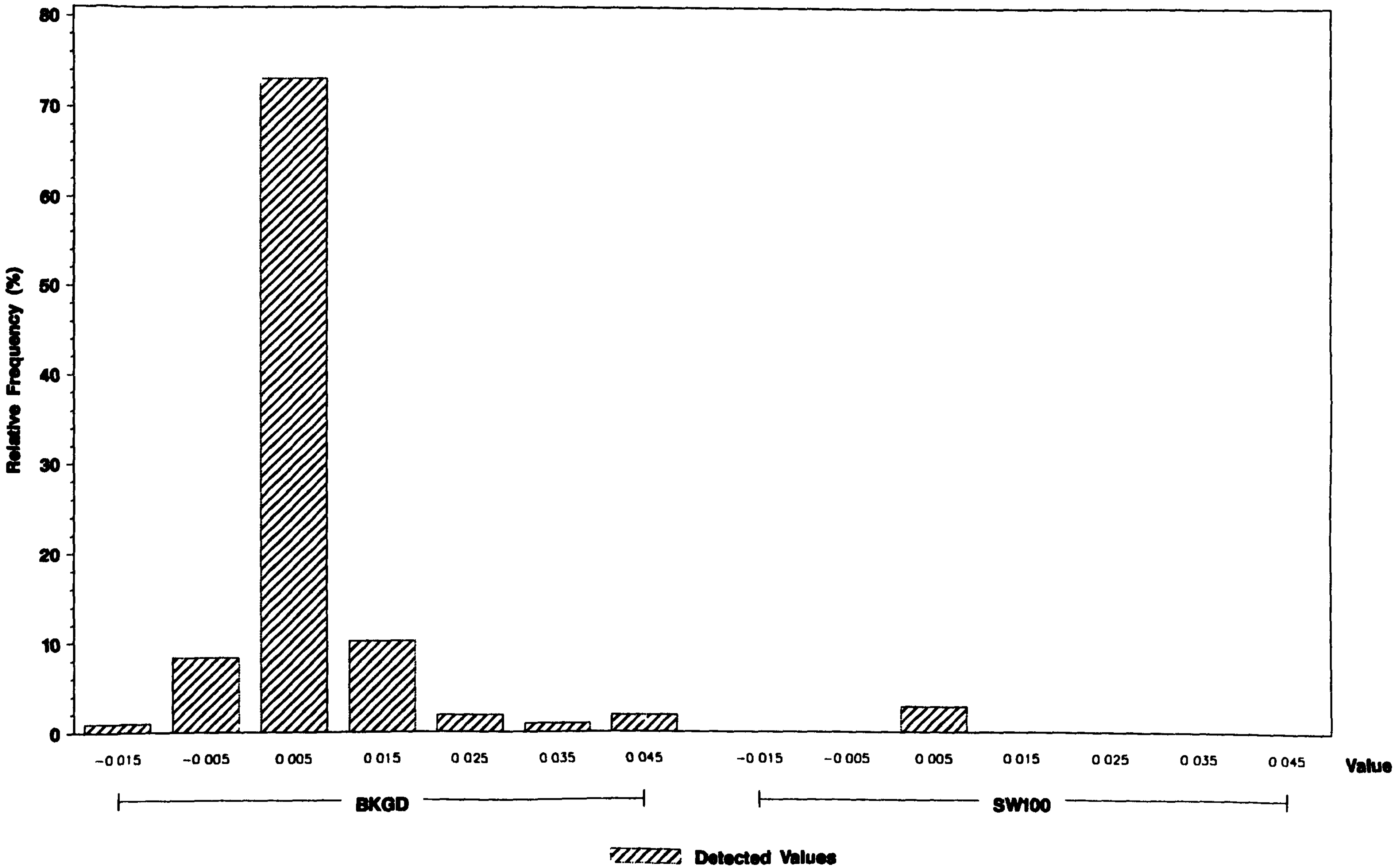
ANALYTE=PLUTONIUM−239



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total PLUTONIUM-239/240 (pCi/L) in Surface Water

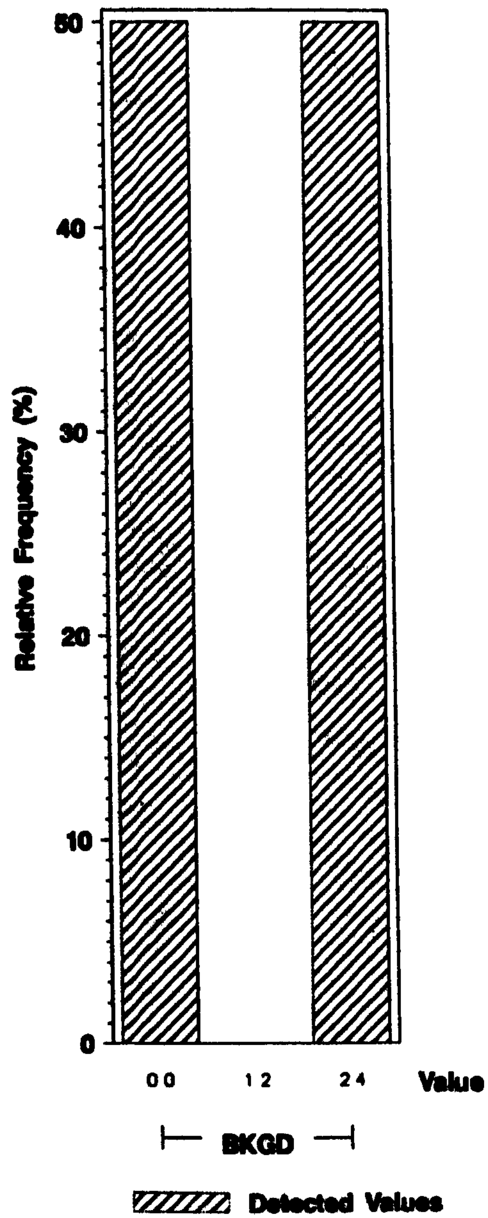
ANALYTE=PLUTONIUM-239/240



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total RADIUM-226 (pCi/L) in Surface Water

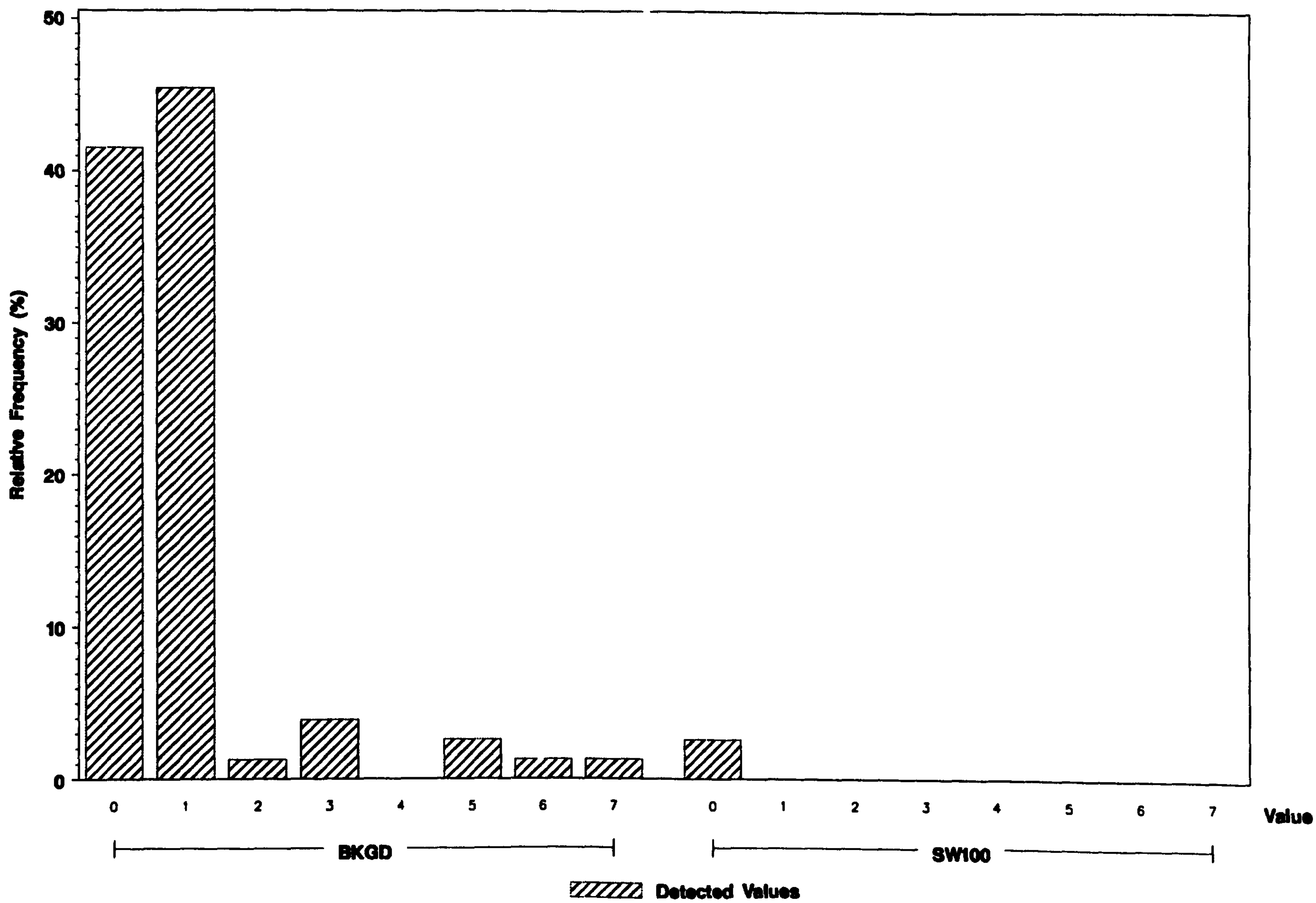
ANALYTE=RADIUM-226



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total STRONTIUM – 89,90 (pCi/L) in Surface Water

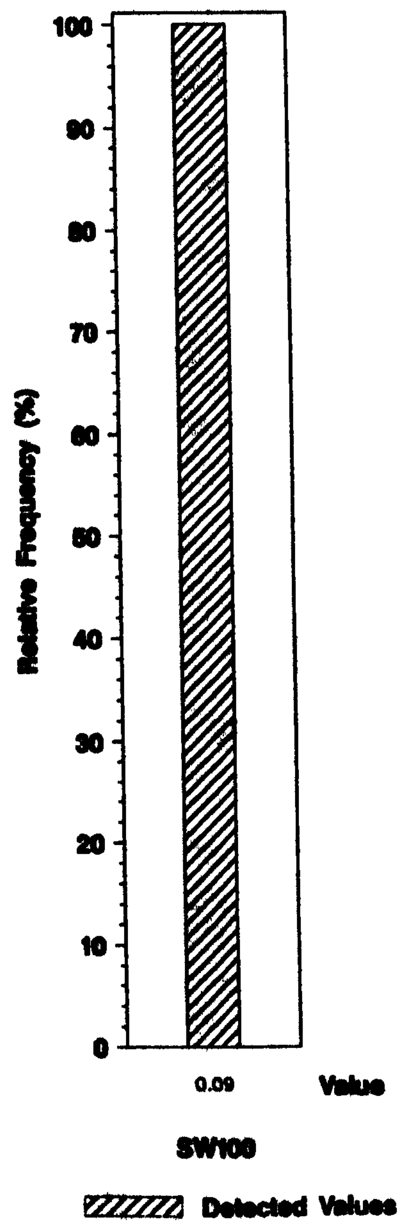
ANALYTE = STRONTIUM – 89,90



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total STRONTIUM – 90 (pCi/L) in Surface Water

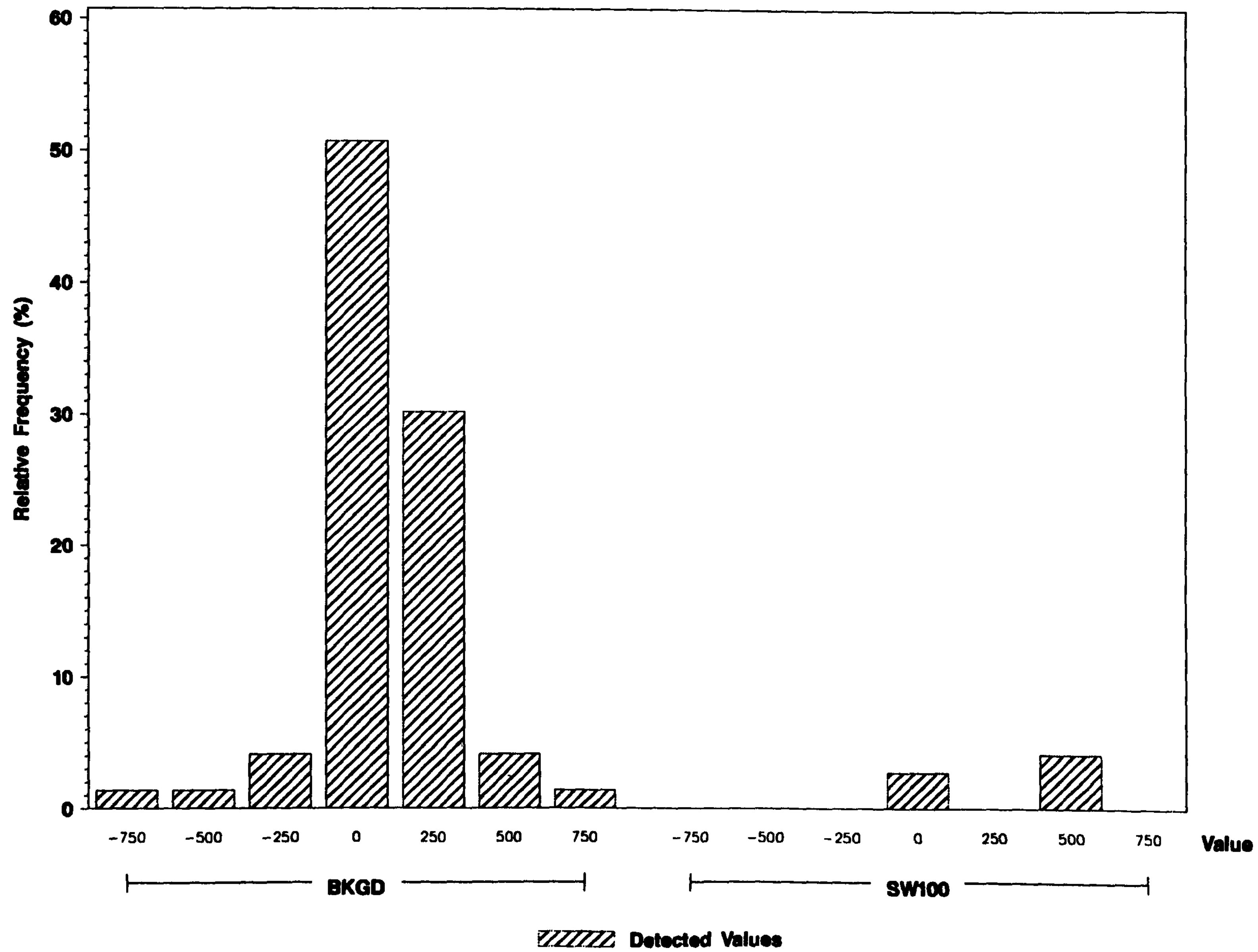
ANALYTE = STRONTIUM – 90



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total TRITIUM (pCi/L) in Surface Water

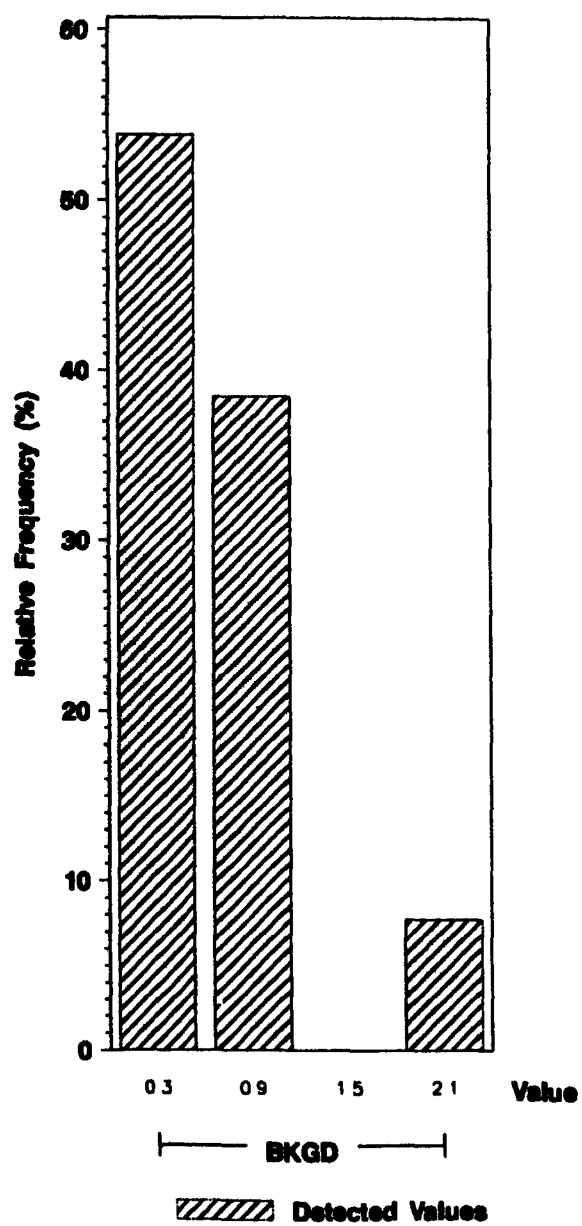
ANALYTE=TRITIUM



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total URANIUM, TOTAL (pCi/L) in Surface Water

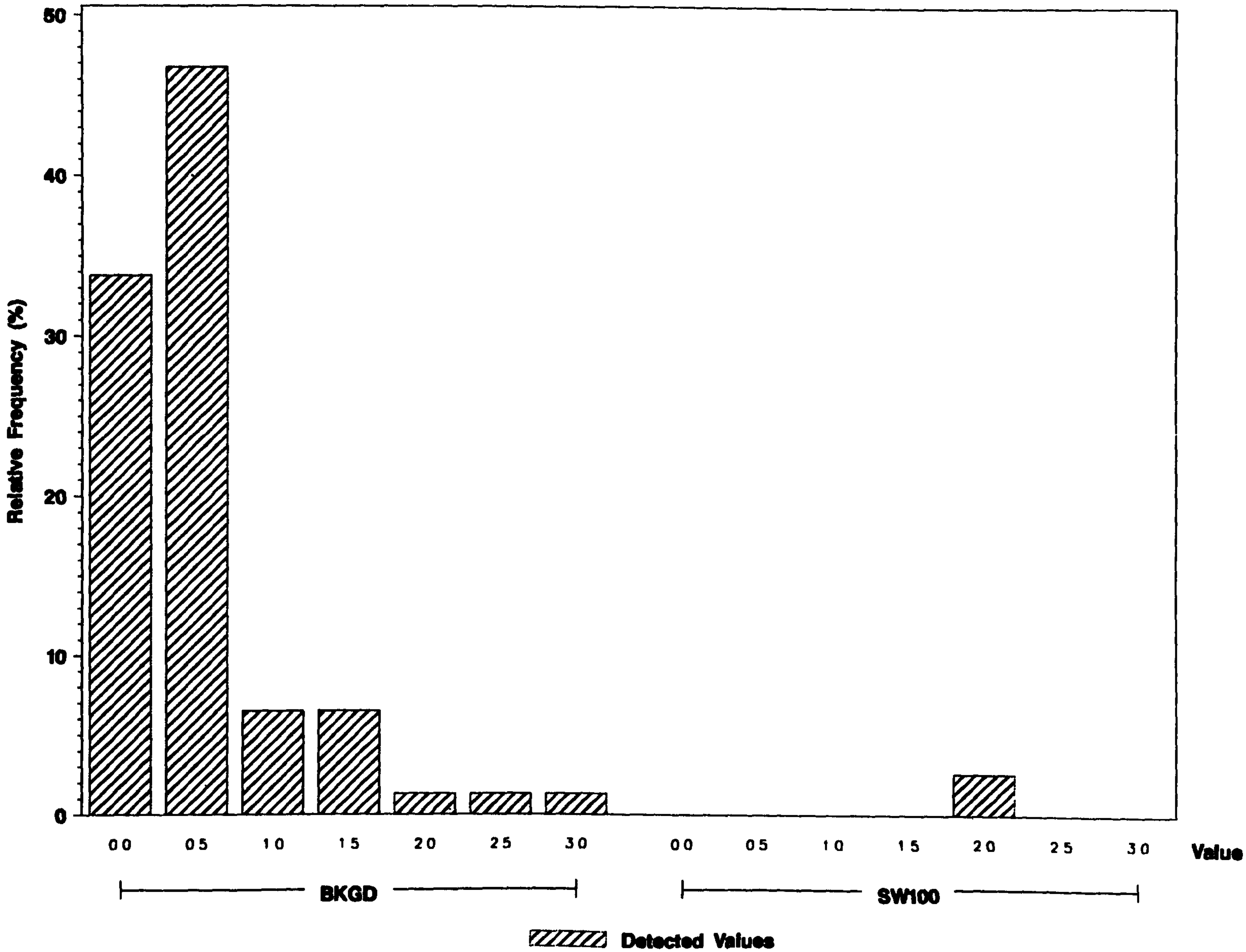
ANALYTE=URANIUM, TOTAL



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total URANIUM – 233, – 234 (pCi/L) In Surface Water

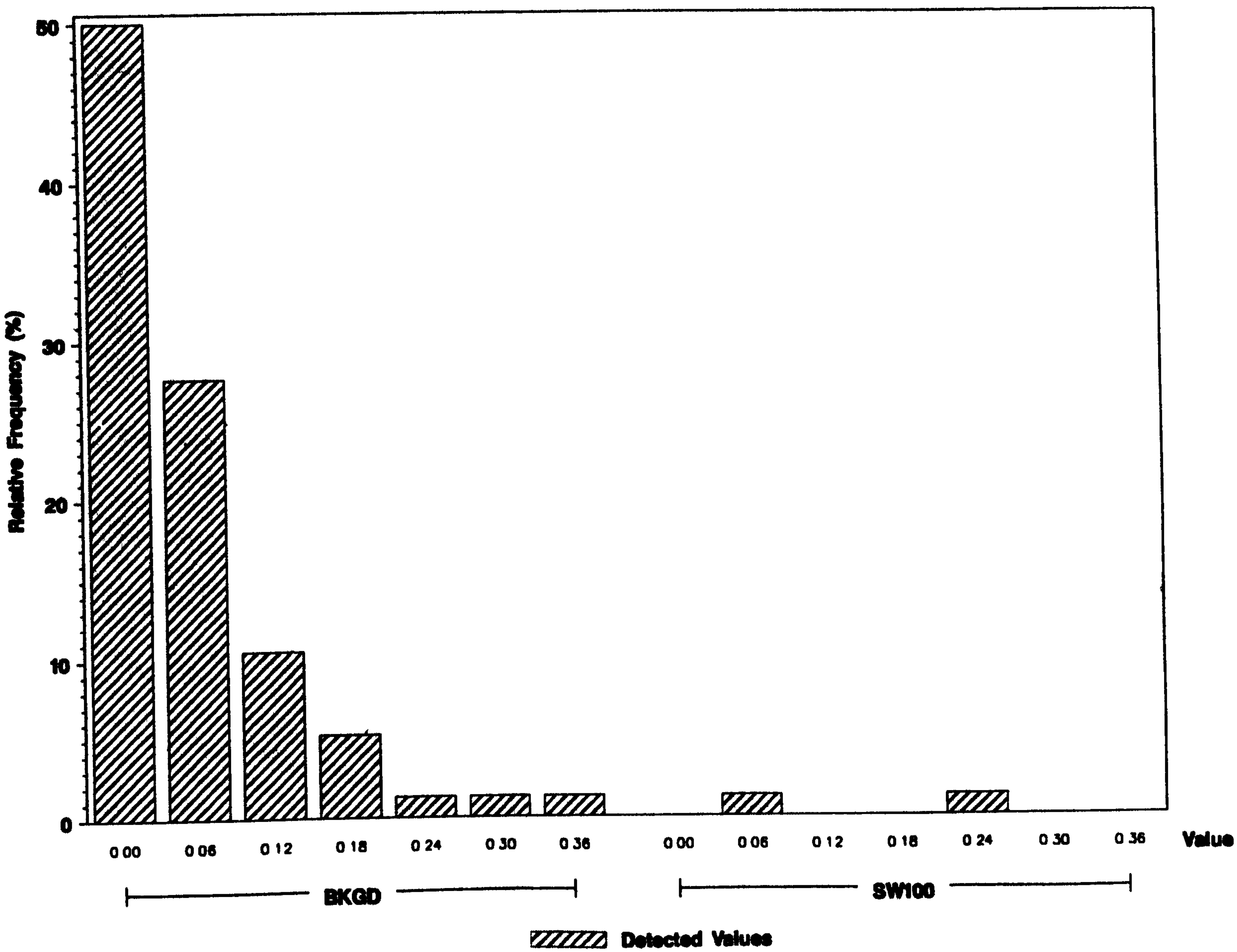
ANALYTE = URANIUM – 233, – 234



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total URANIUM-235 (pCI/L) In Surface Water

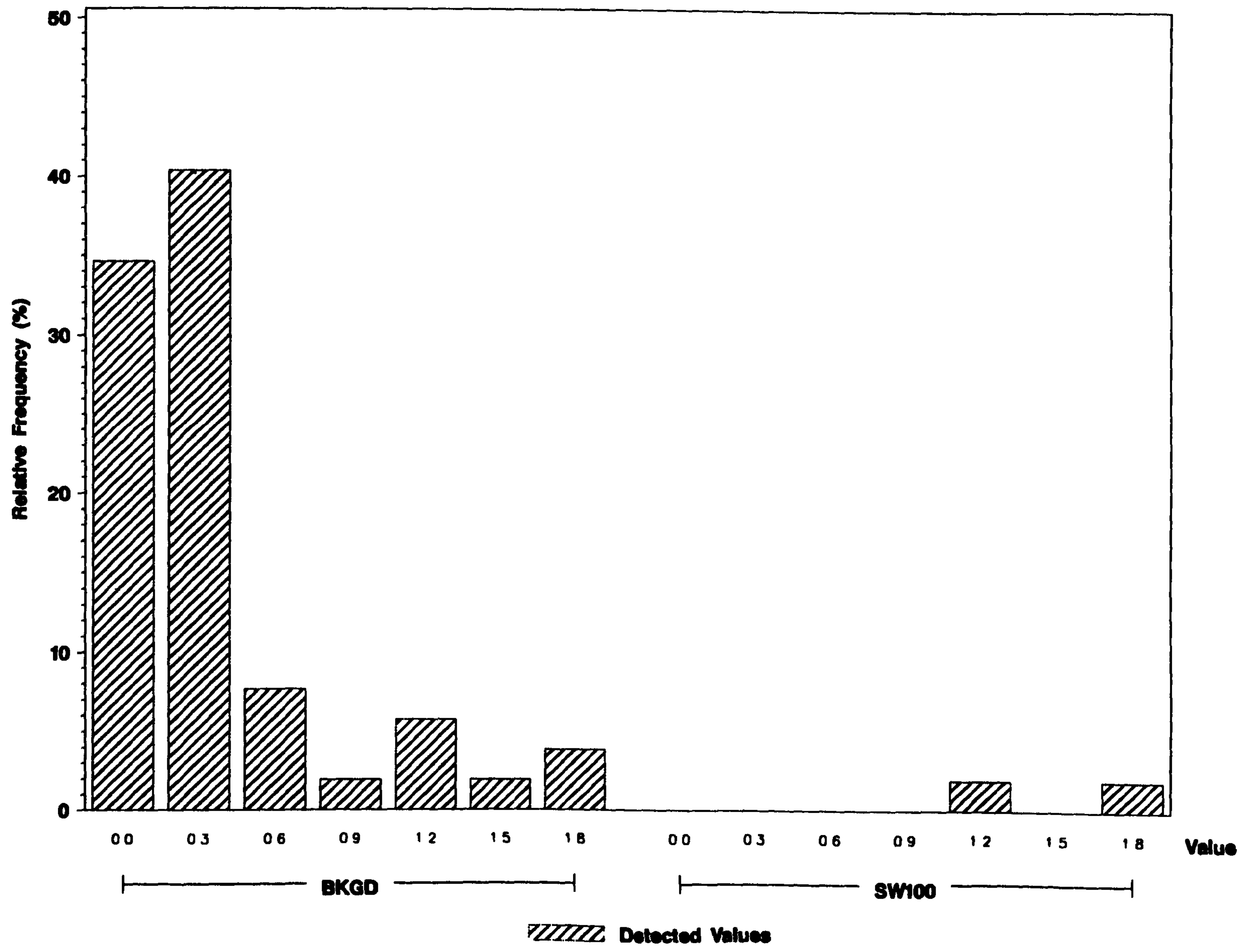
ANALYTE=URANIUM-235



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total URANIUM-238 (pCi/L) In Surface Water

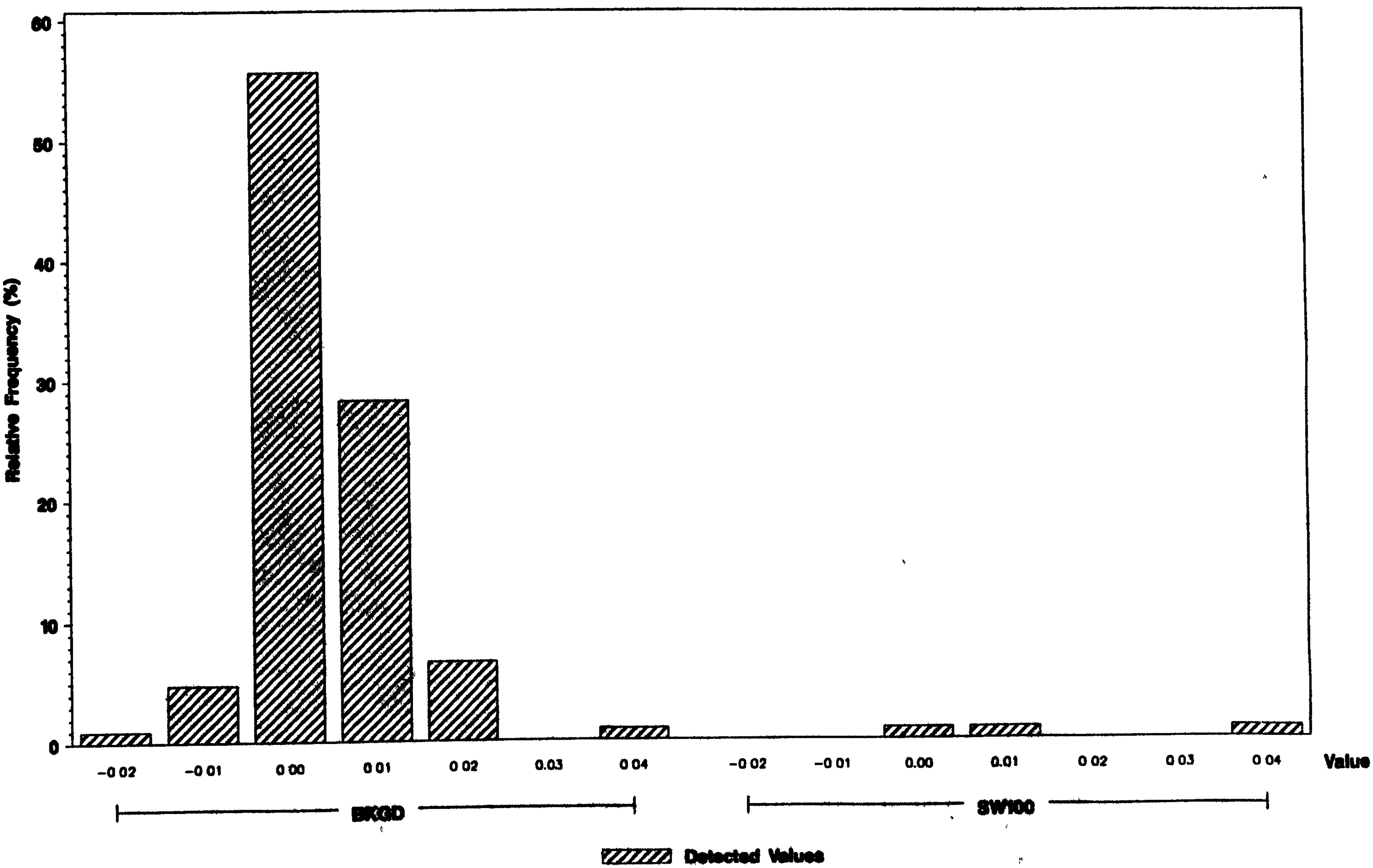
ANALYTE=URANIUM-238



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total AMERICIUM – 241 (pCi/L) in Surface Water

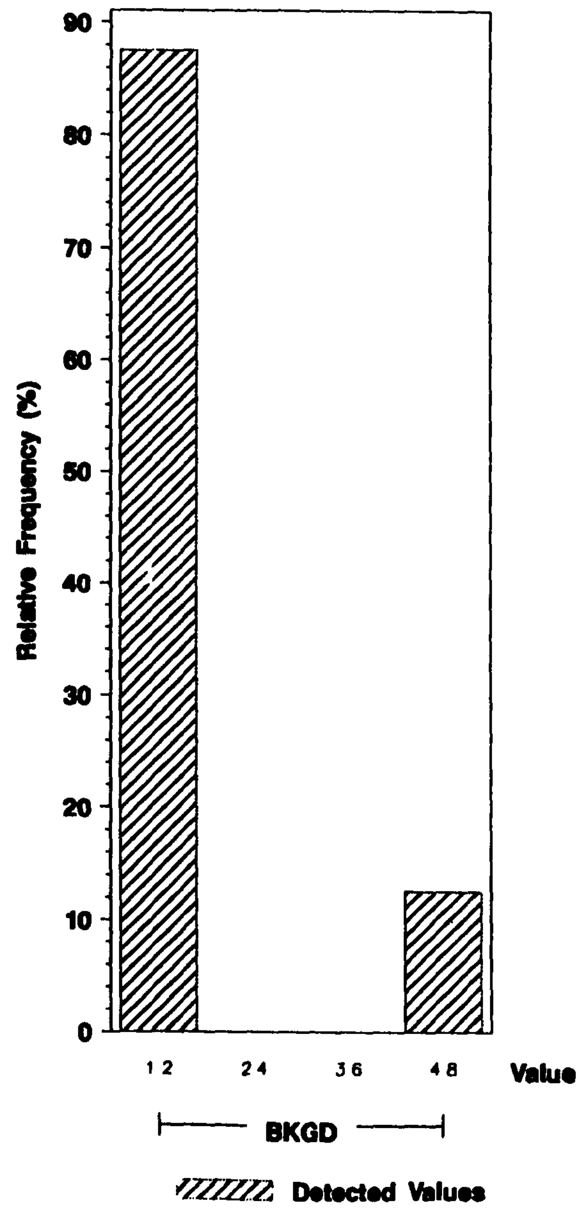
ANALYTE = AMERICIUM – 241



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total CESIUM-134 (pCi/L) in Surface Water

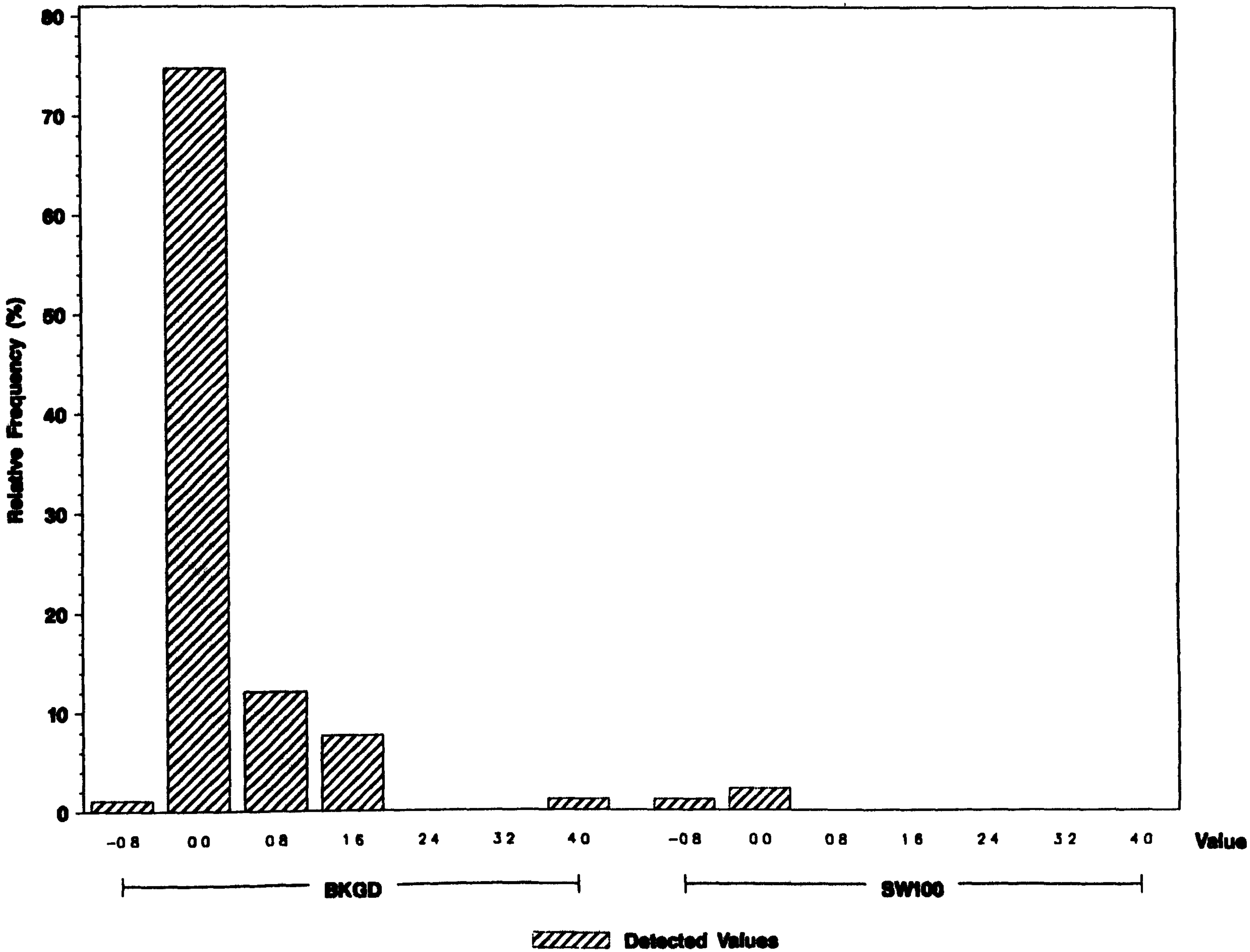
ANALYTE=CESIUM-134



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total CESIUM-137 (pCi/L) in Surface Water

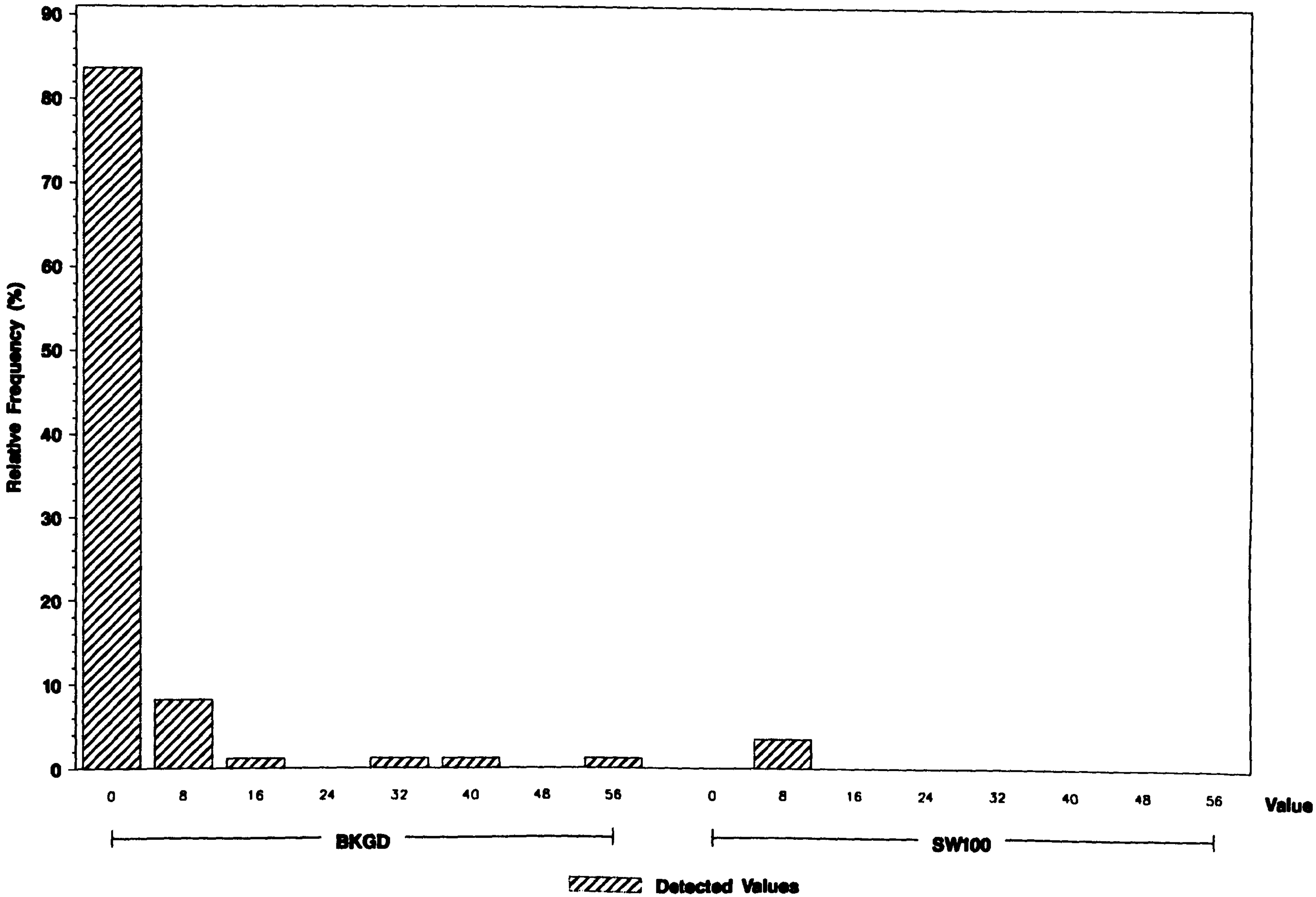
ANALYTE=CESIUM-137



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total GROSS ALPHA (pCi/L) In Surface Water

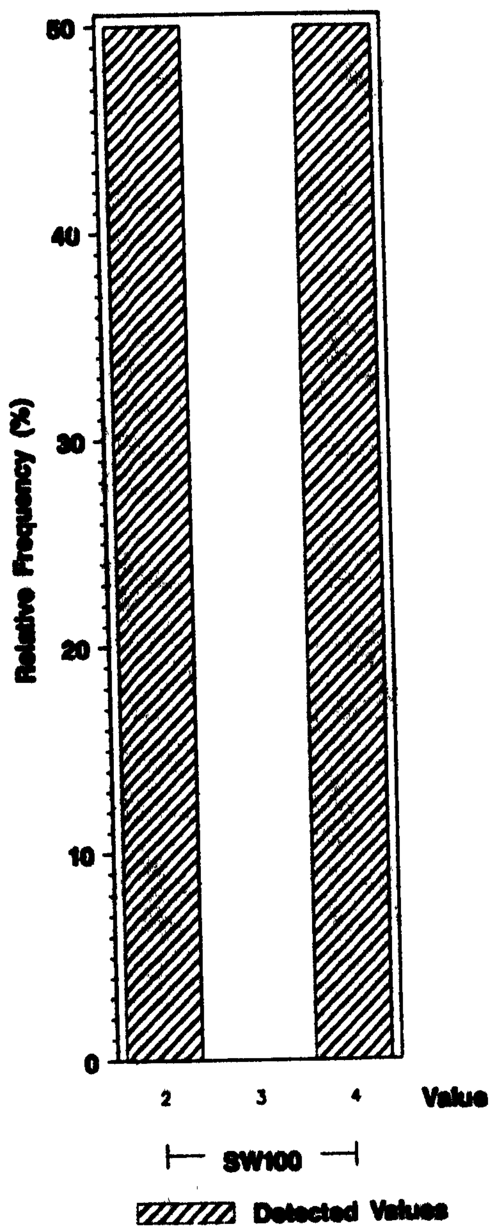
ANALYTE=GROSS ALPHA



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total GROSS ALPHA – DISSOLVED (pCi/L) in Surface Water

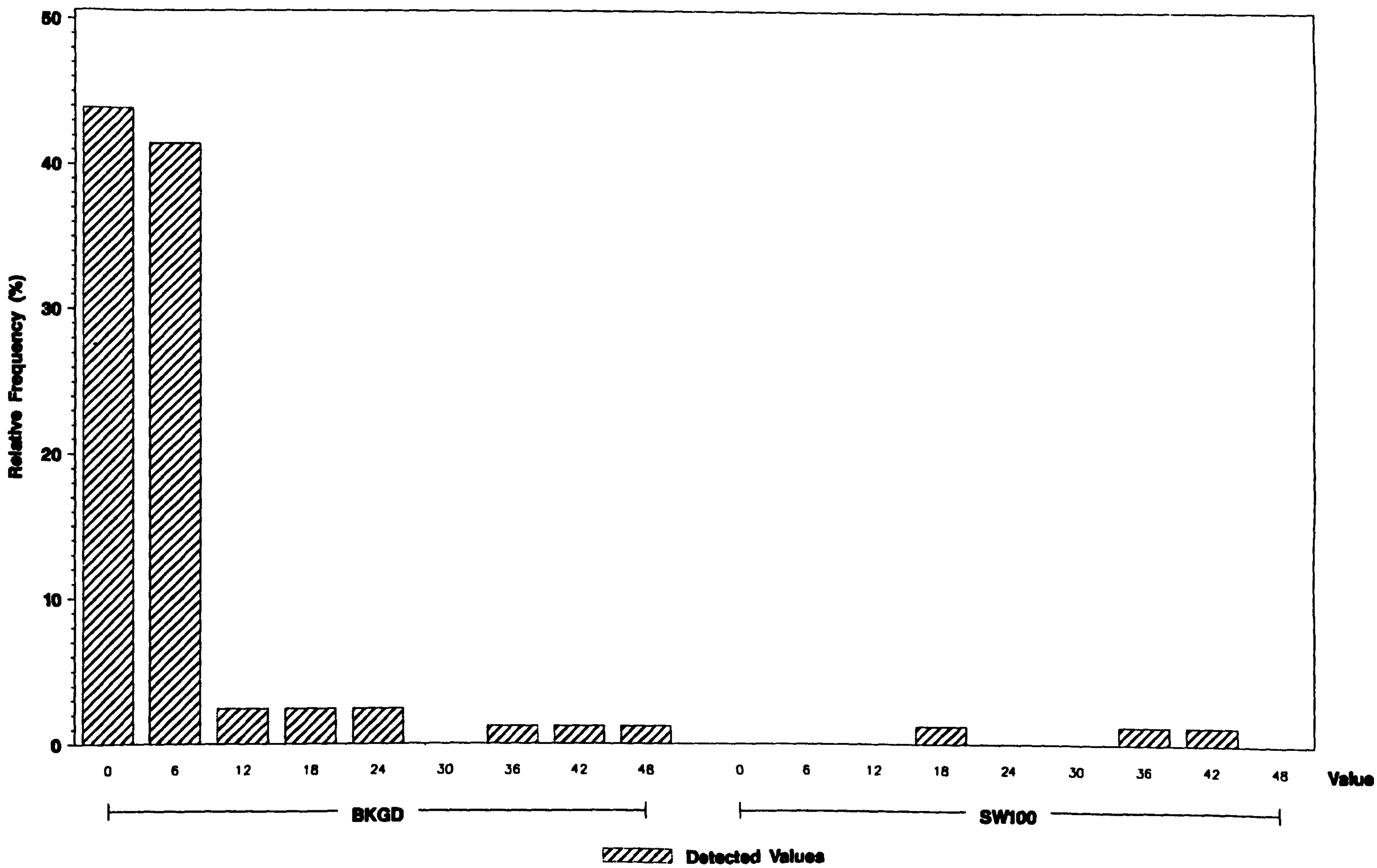
ANALYTE=GROSS ALPHA – DISSOLVED



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total GROSS BETA (pCi/L) in Surface Water

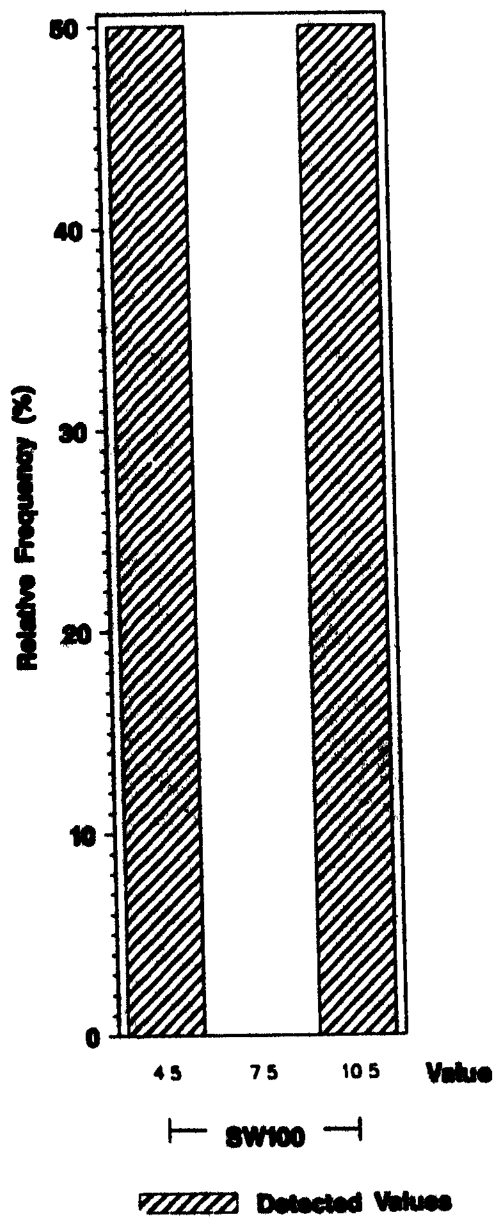
ANALYTE=GROSS BETA



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total GROSS BETA – DISSOLVED (pCi/L) in Surface Water

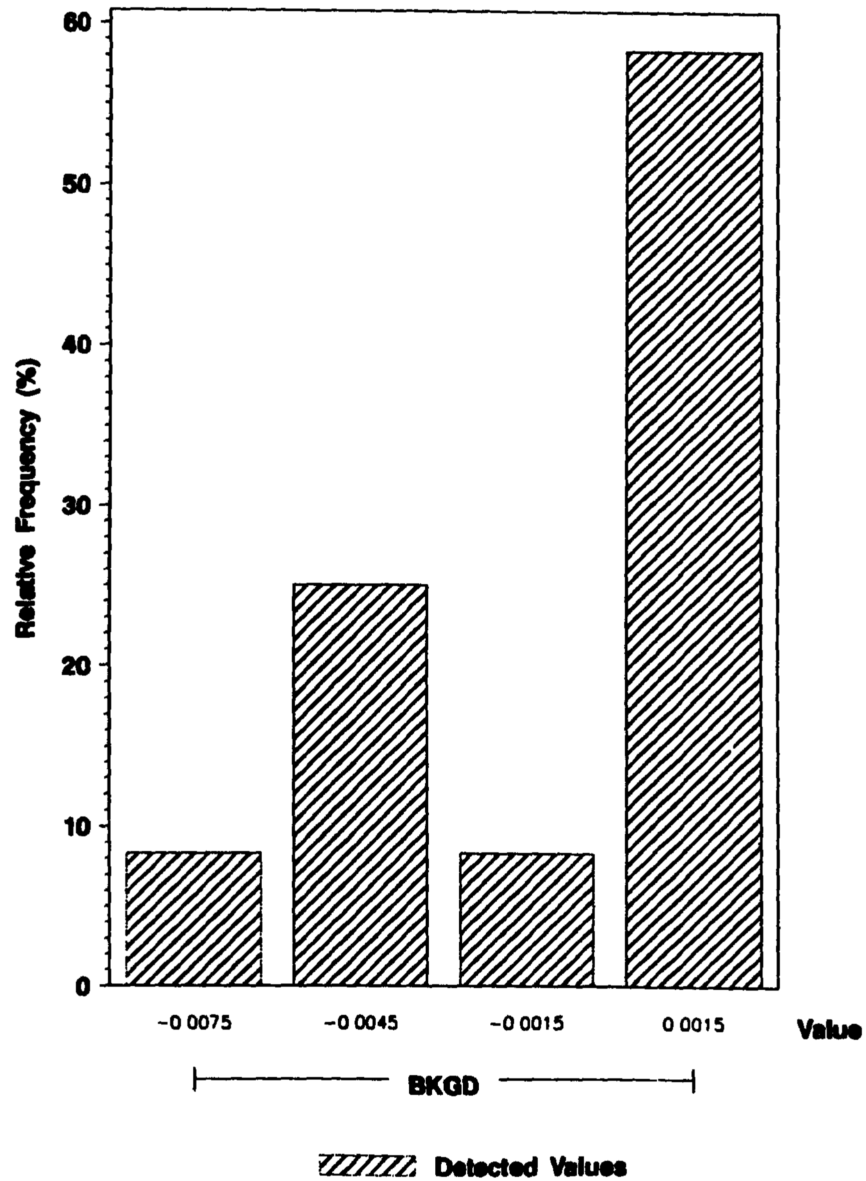
ANALYTE=GROSS BETA – DISSOLVED



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total PLUTONIUM – 236 (pCi/L) in Surface Water

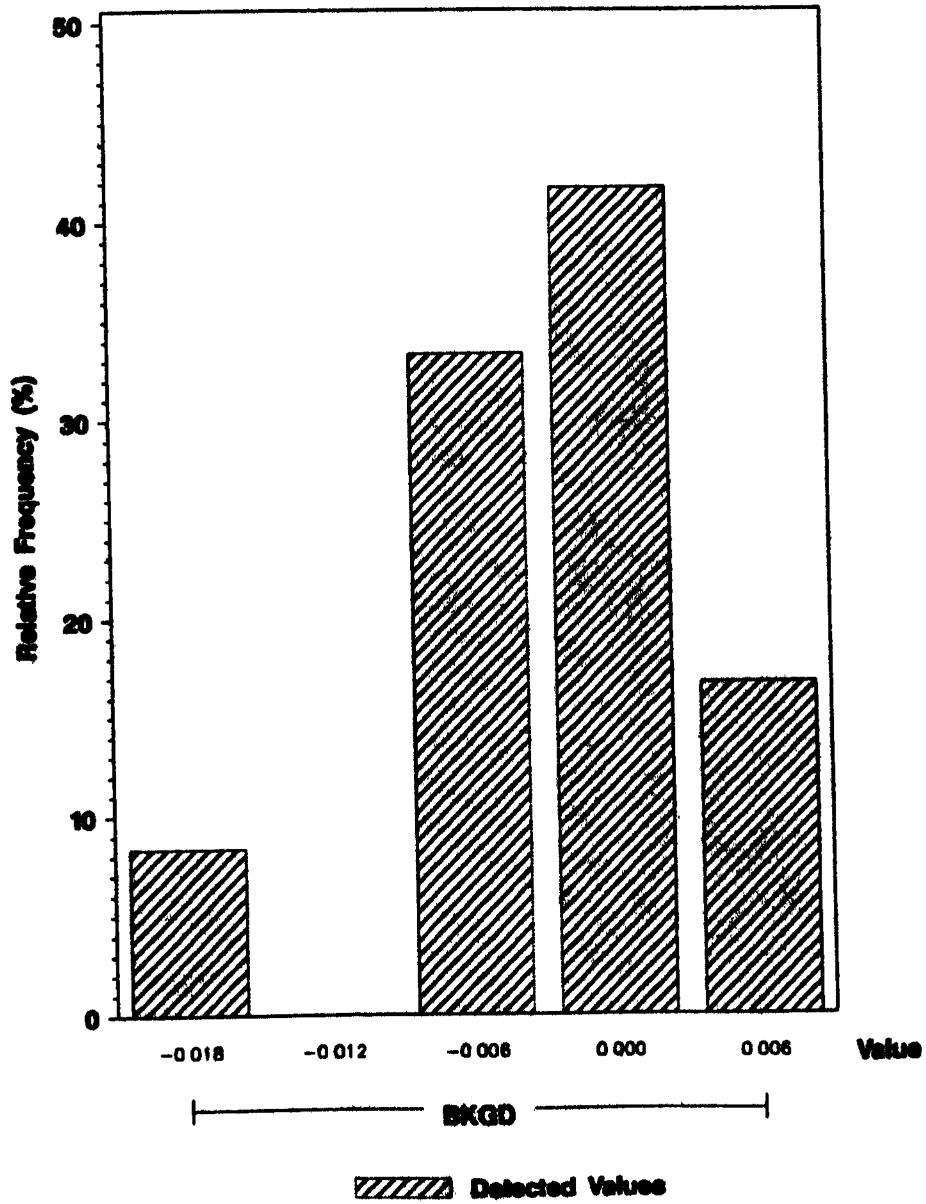
ANALYTE = PLUTONIUM – 236



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total PLUTONIUM – 238 (pCI/L) In Surface Water

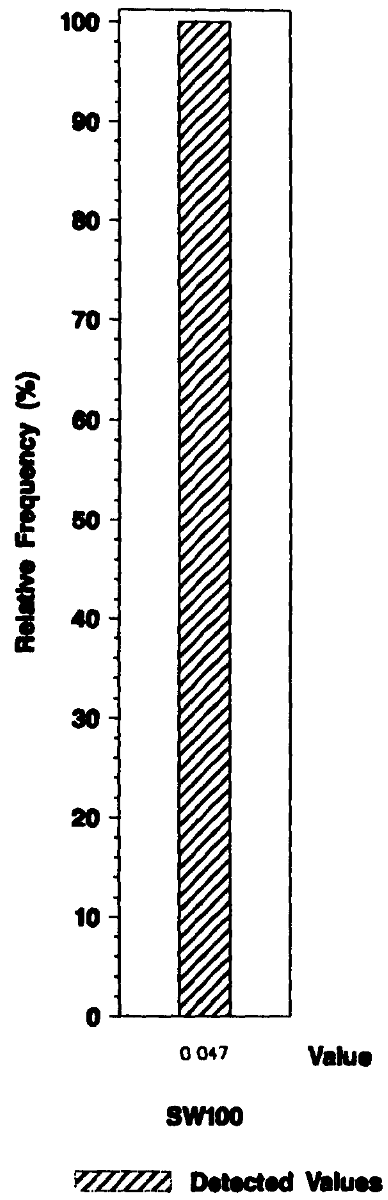
ANALYTE = PLUTONIUM – 238



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total PLUTONIUM-239 (pCi/L) in Surface Water

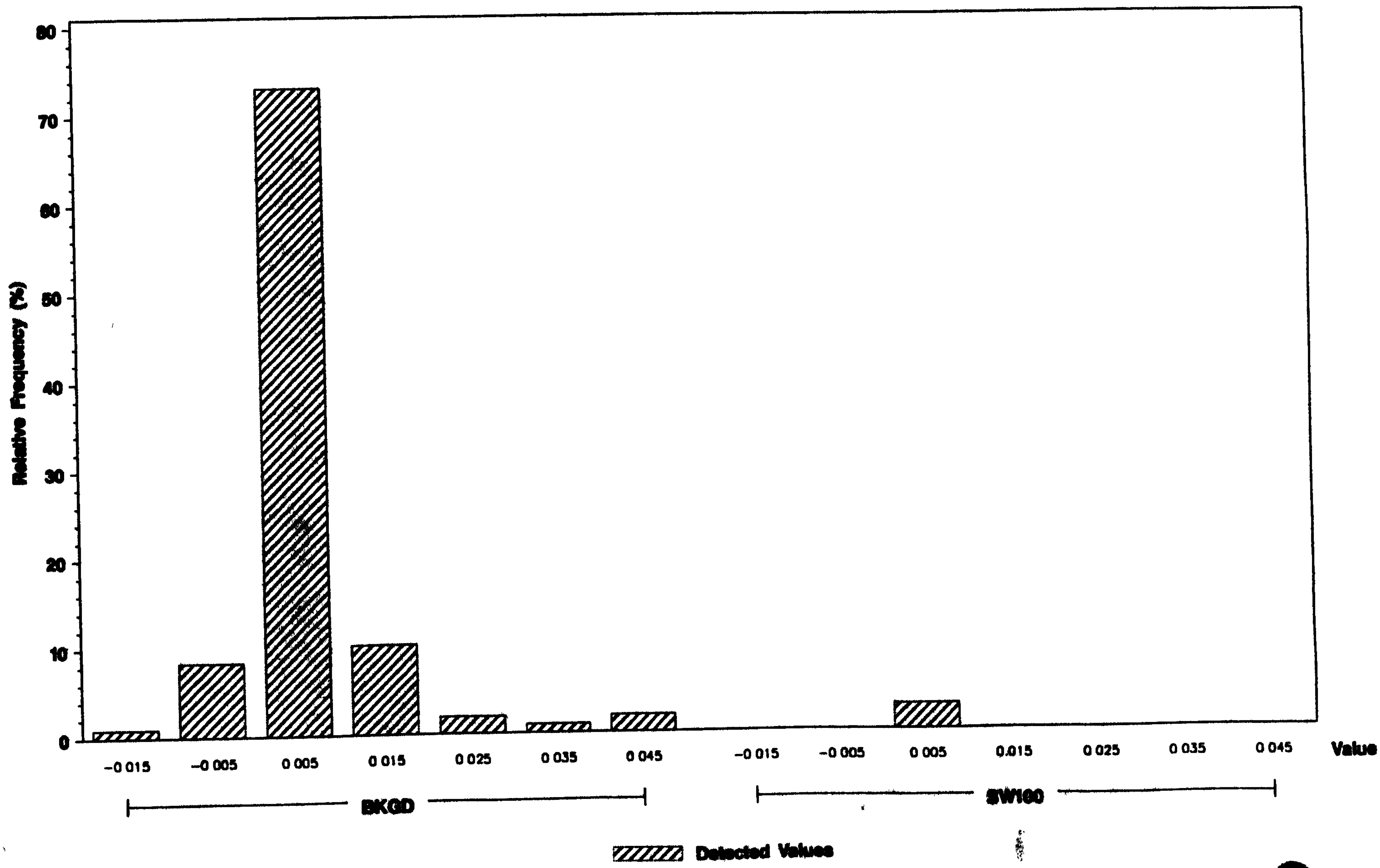
ANALYTE=PLUTONIUM-239



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total PLUTONIUM – 239/240 (pCi/L) In Surface Water

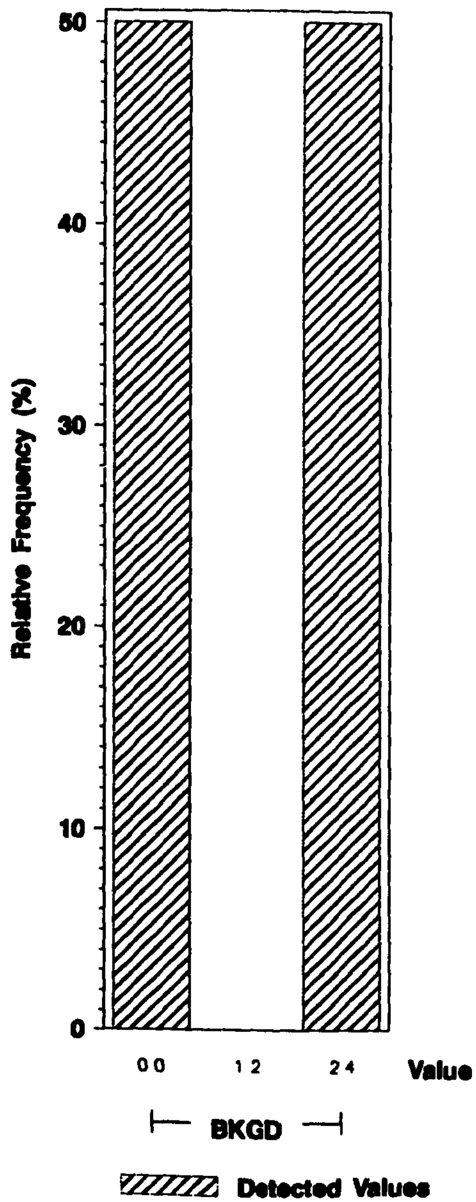
ANALYTE = PLUTONIUM – 239/240



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total RADIUM-226 (pCI/L) In Surface Water

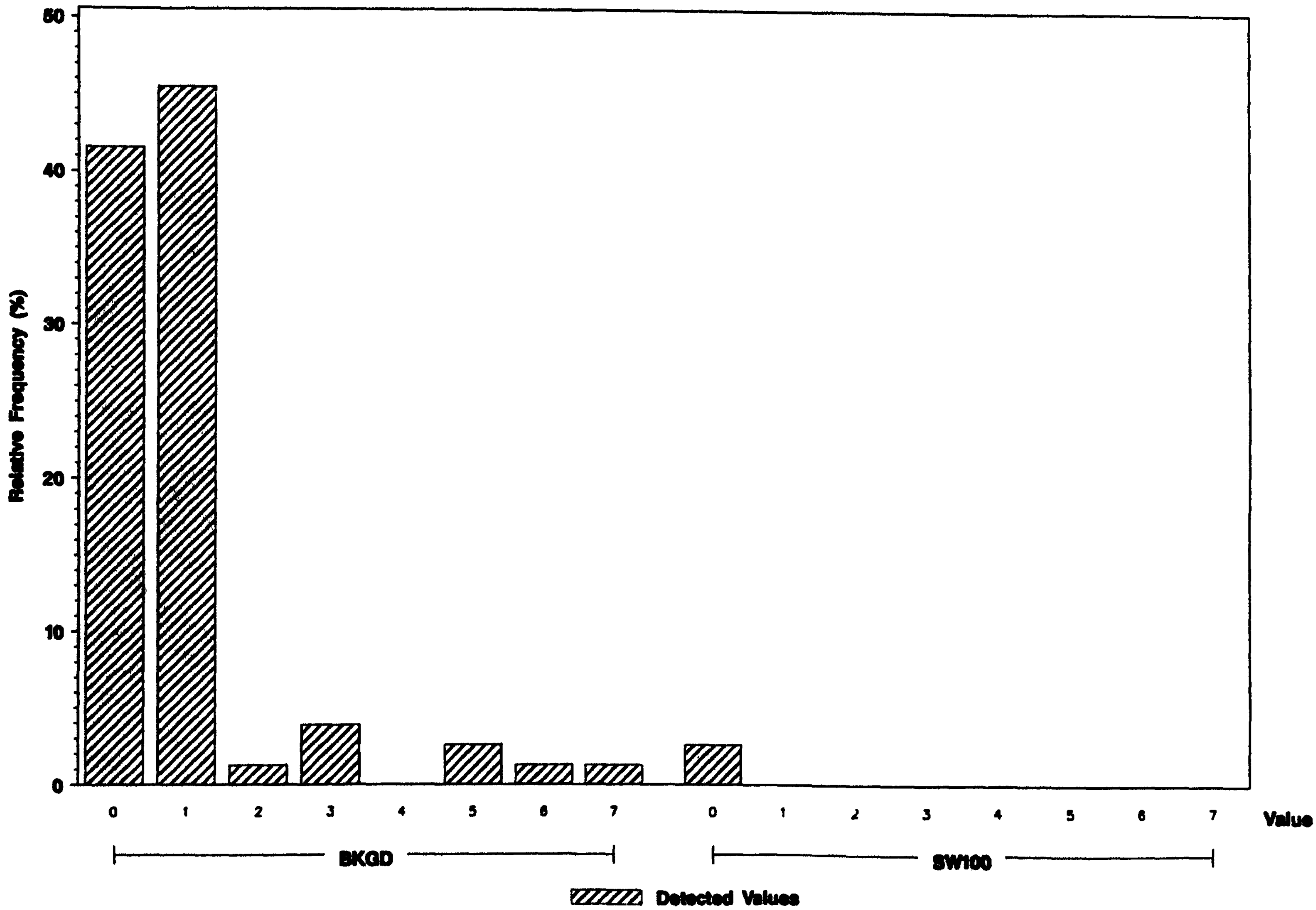
ANALYTE=RADIUM-226



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total STRONTIUM – 89,90 (pCi/L) in Surface Water

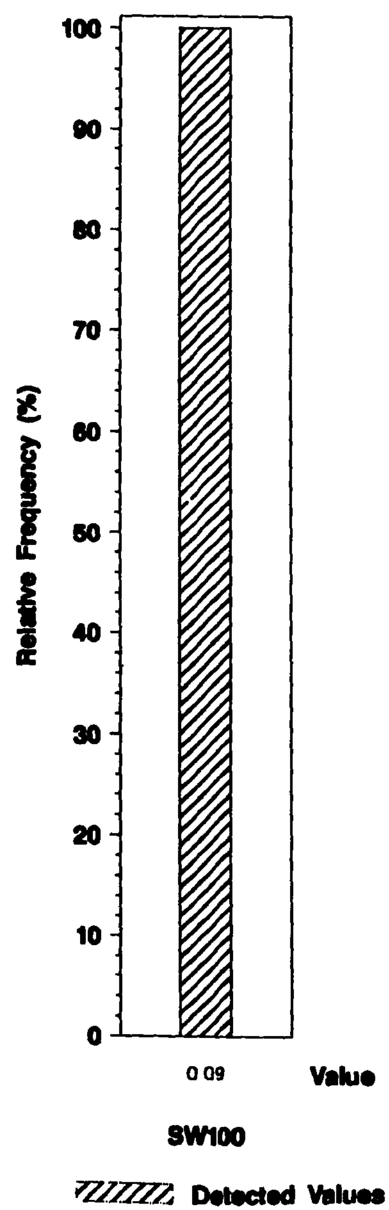
ANALYTE = STRONTIUM – 89,90



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total STRONTIUM-90 (pCi/L) in Surface Water

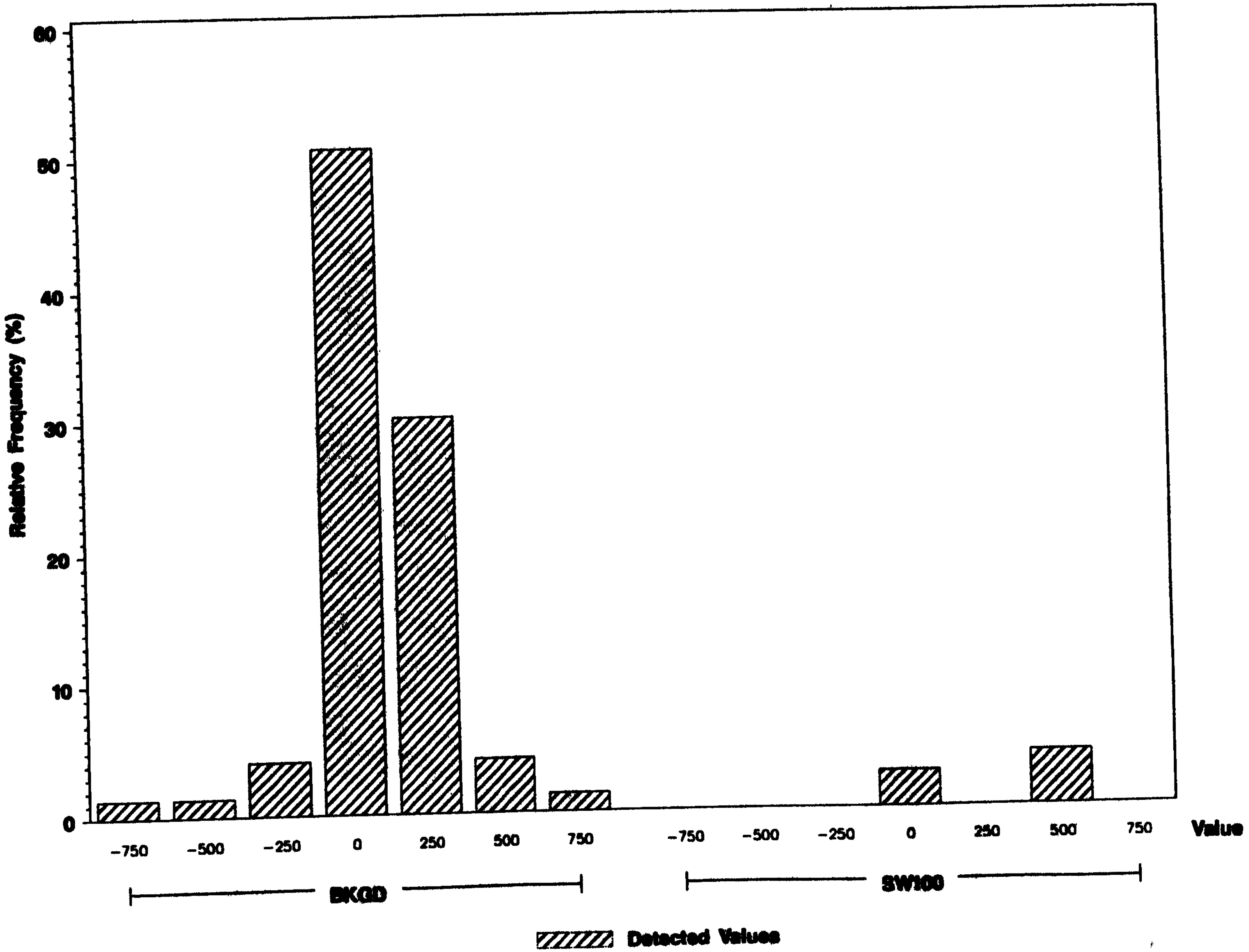
ANALYTE=STRONTIUM-90



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total TRITIUM (pCI/L) In Surface Water

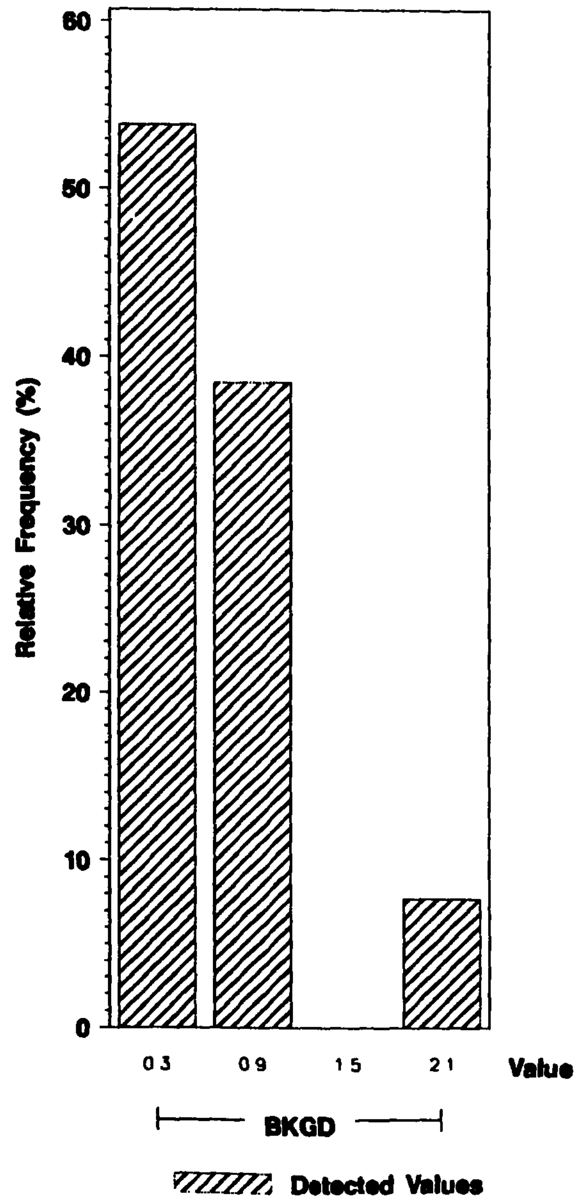
ANALYTE=TRITIUM



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total URANIUM, TOTAL (pCi/L) in Surface Water

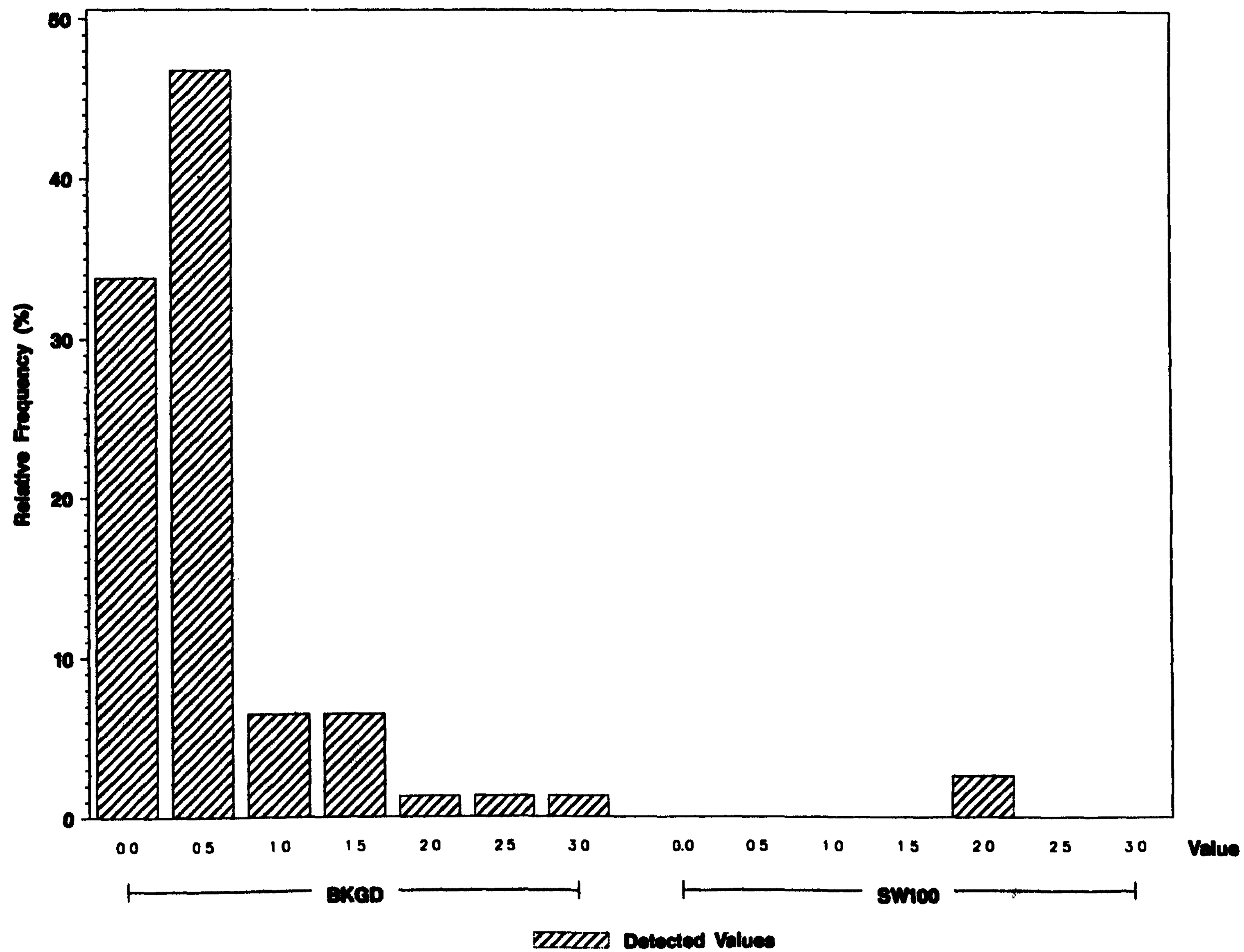
ANALYTE=URANIUM, TOTAL



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total URANIUM-233,-234 (pCi/L) in Surface Water

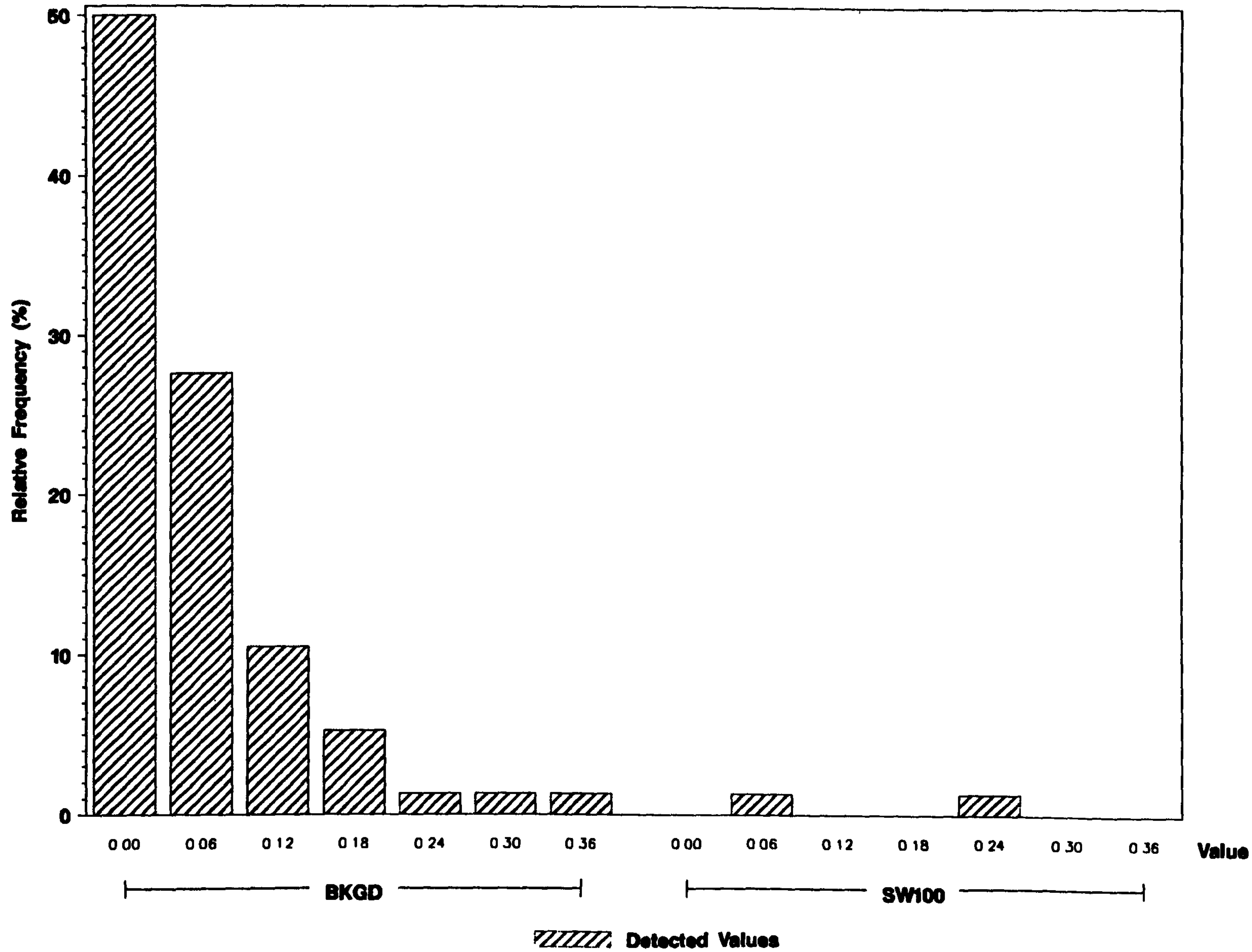
ANALYTE=URANIUM-233,-234



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total URANIUM-235 (pCi/L) in Surface Water

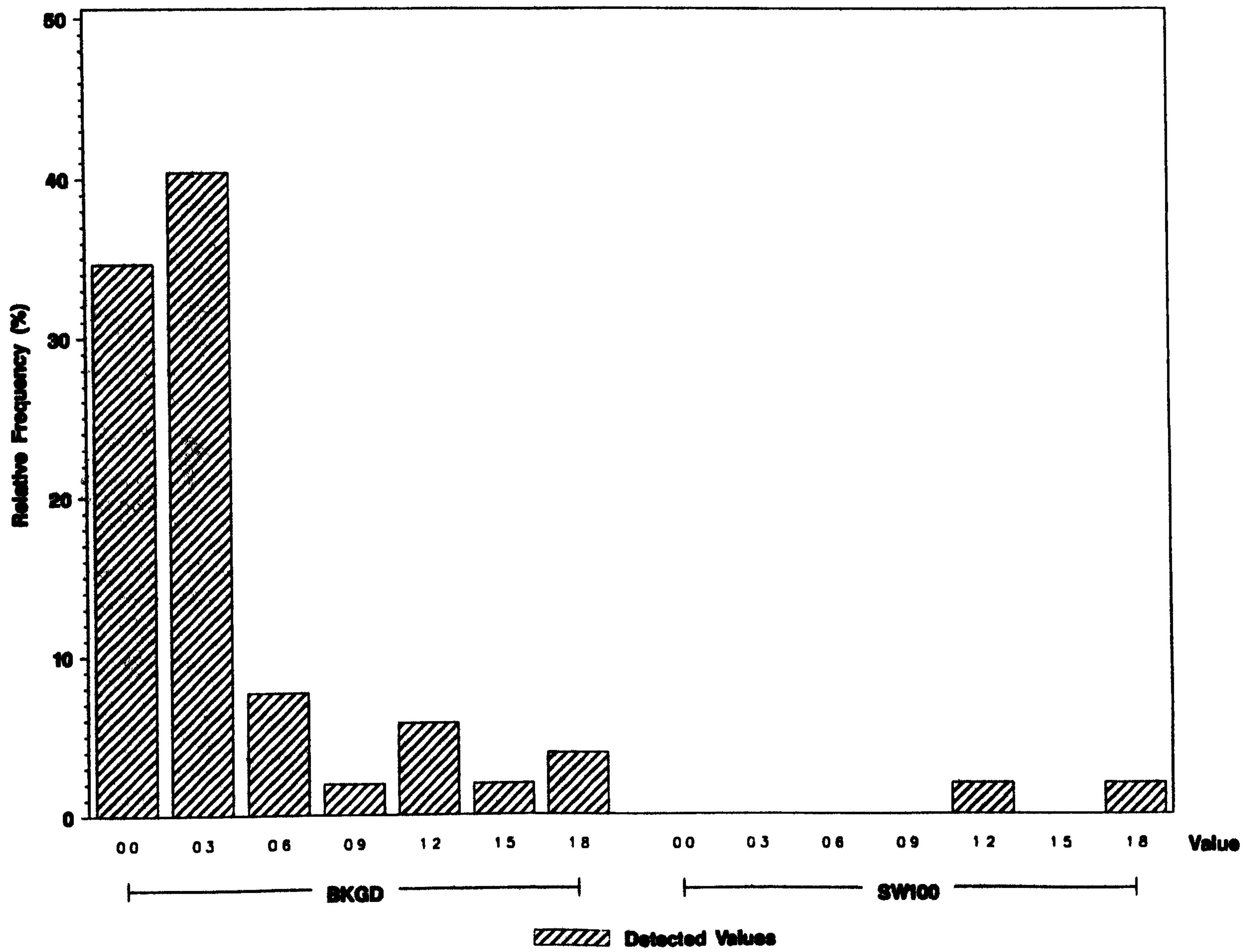
ANALYTE=URANIUM-235



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total URANIUM-238 (pCi/L) in Surface Water

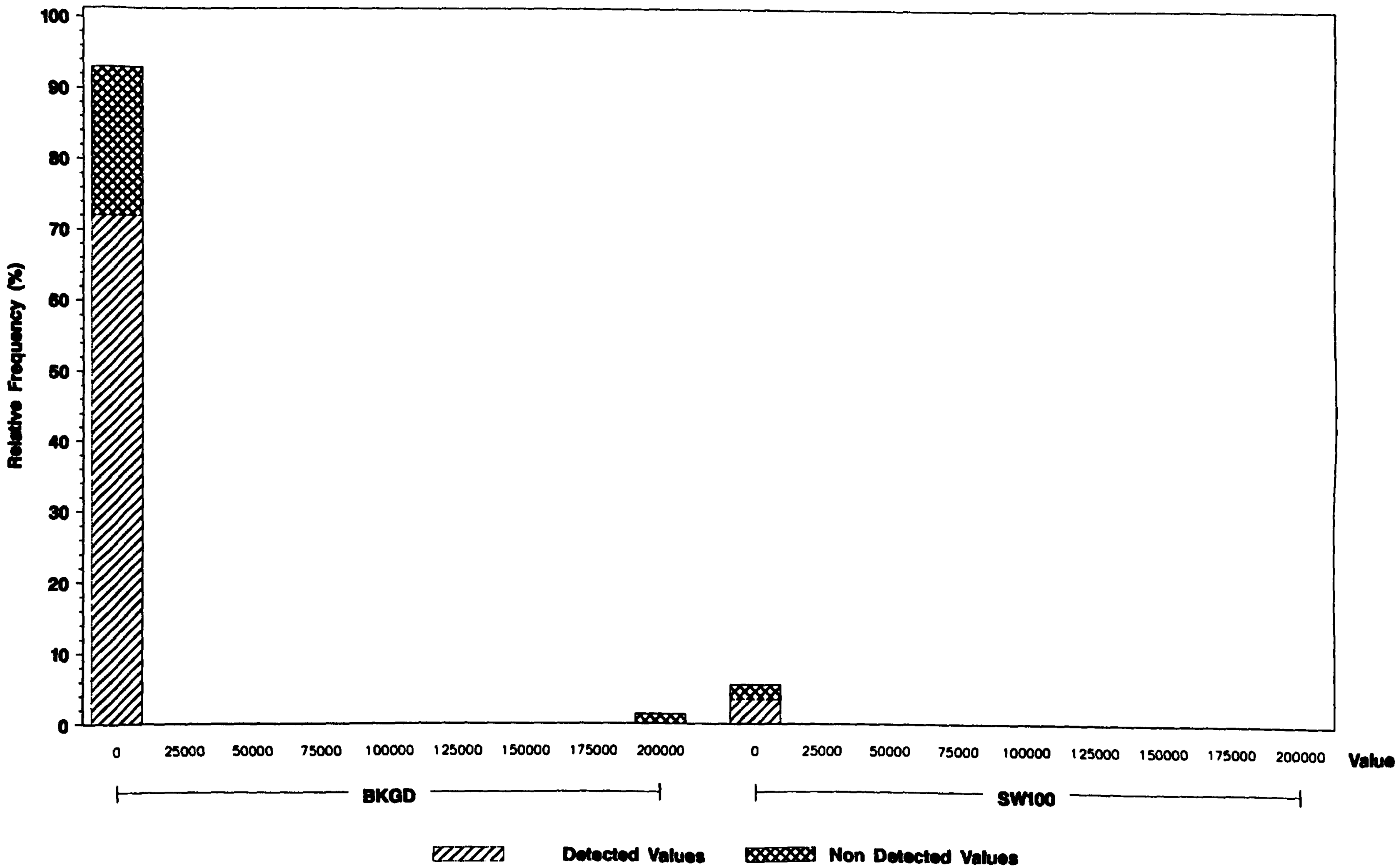
ANALYTE=URANIUM-238



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total ALUMINUM (ug/L) in Surface Water

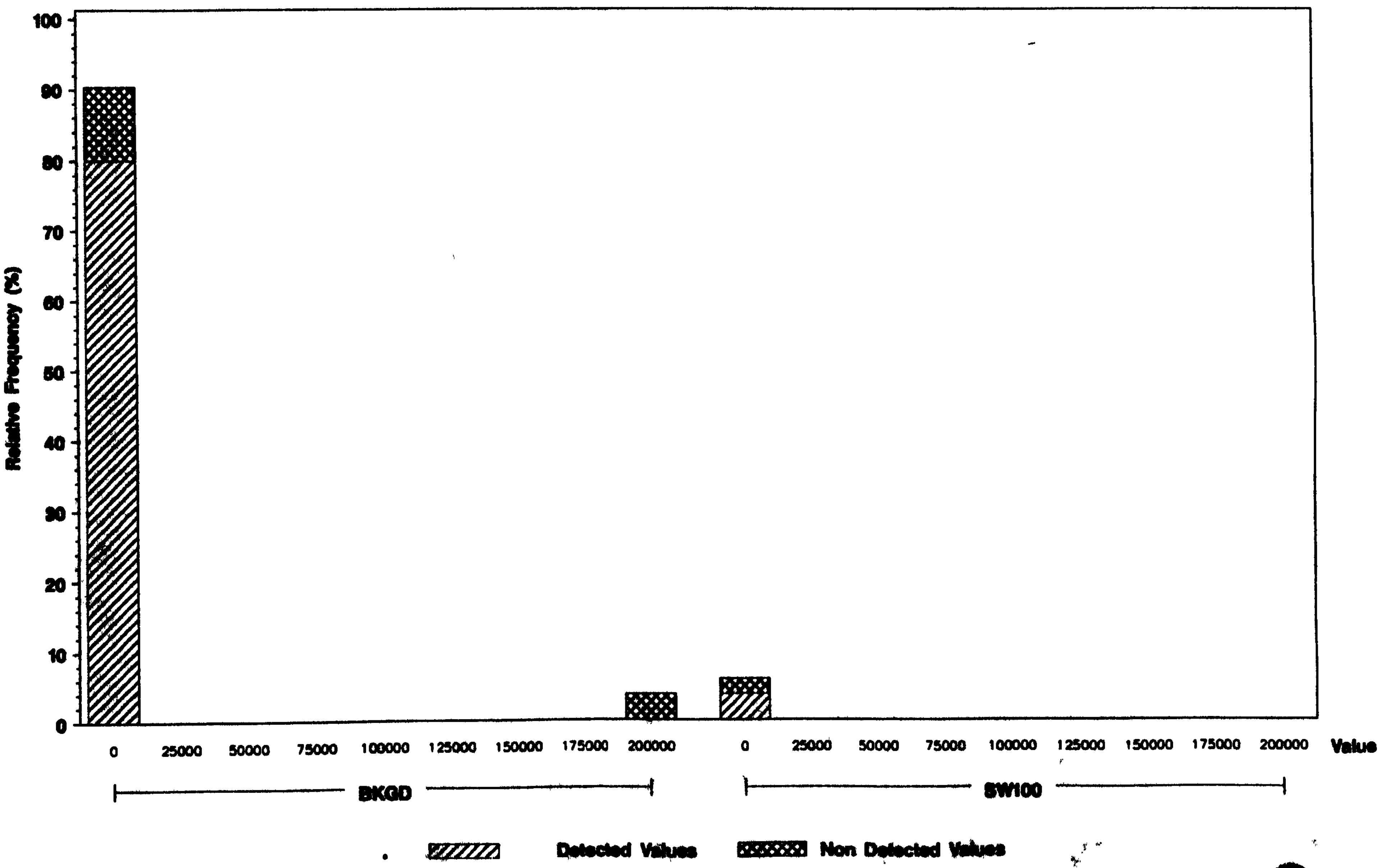
ANALYTE=ALUMINUM



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total BARIUM (ug/L) In Surface Water

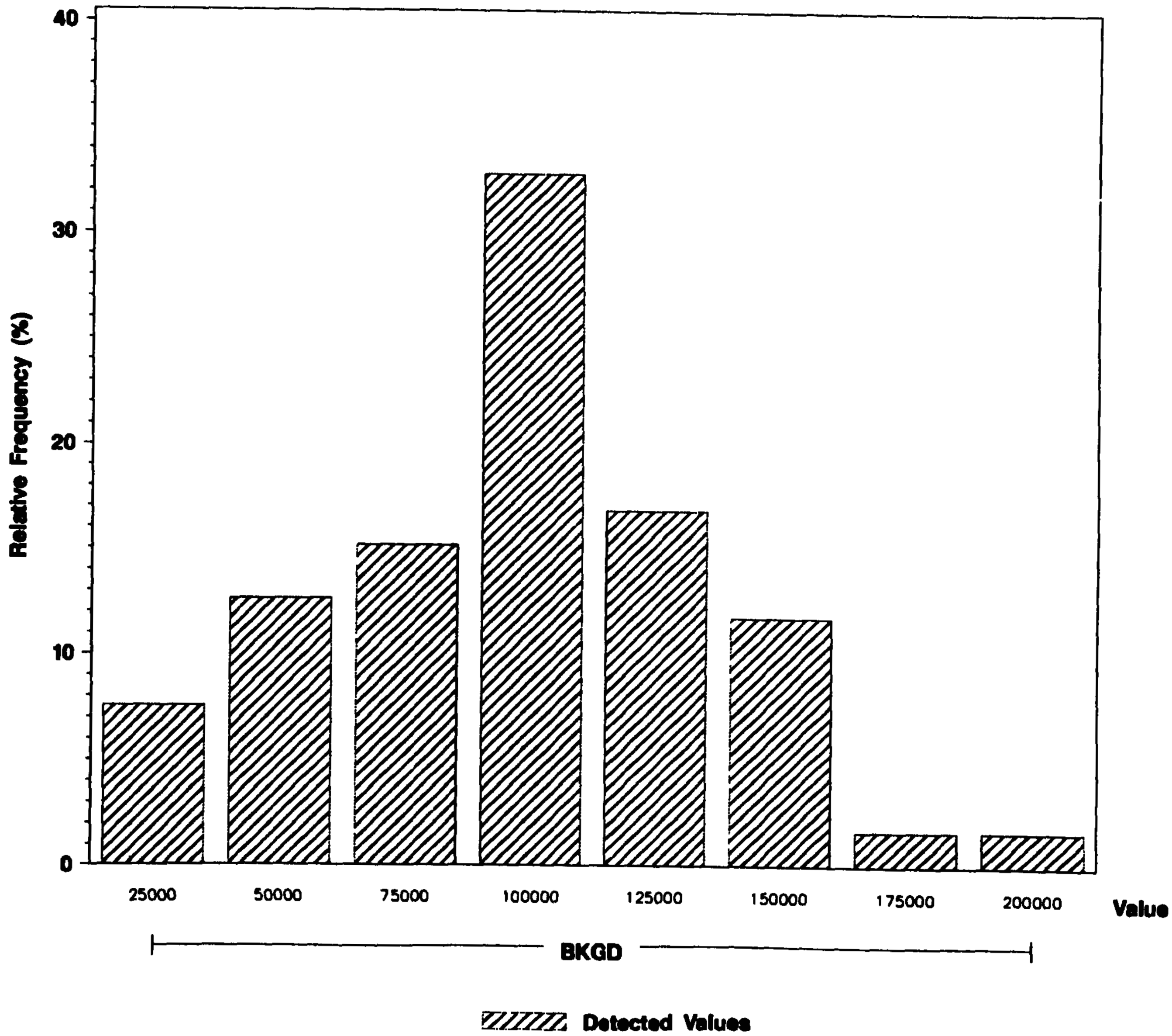
ANALYTE=BARIUM



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total BICARBONATE (ug/L) in Surface Water

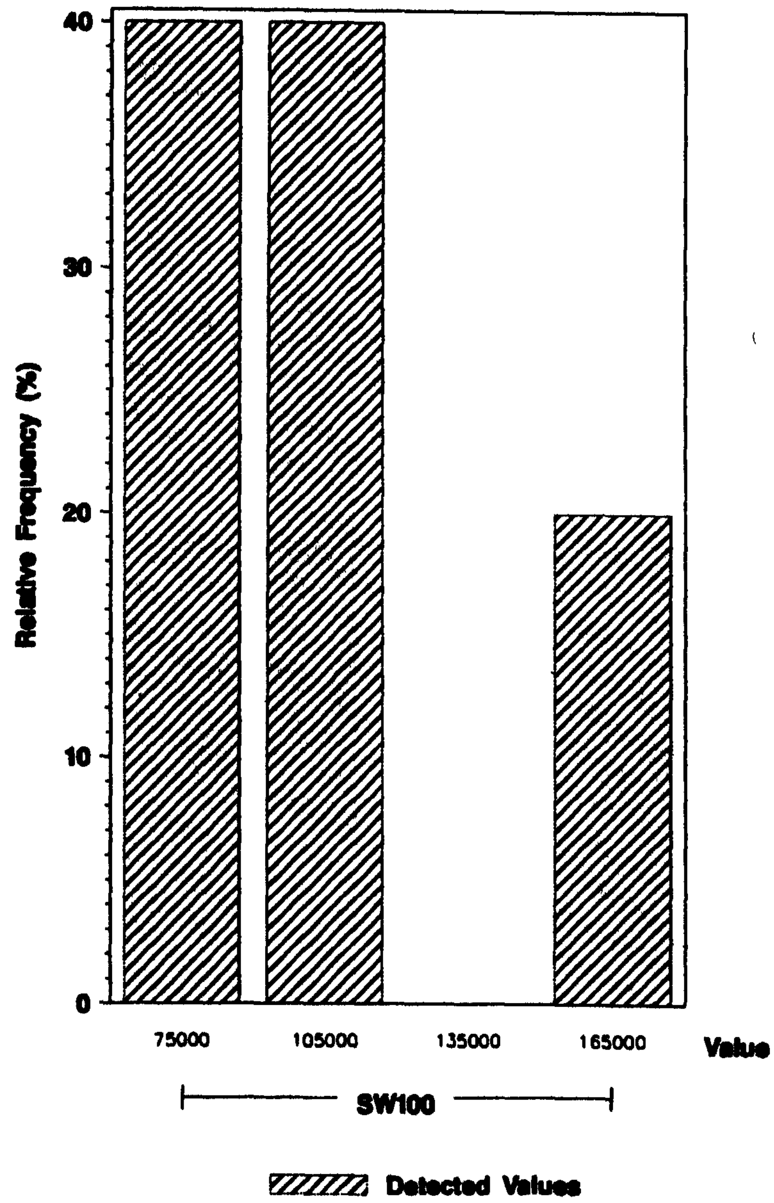
ANALYTE=BICARBONATE



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total BICARBONATE AS CACO3 (ug/L) in Surface Water

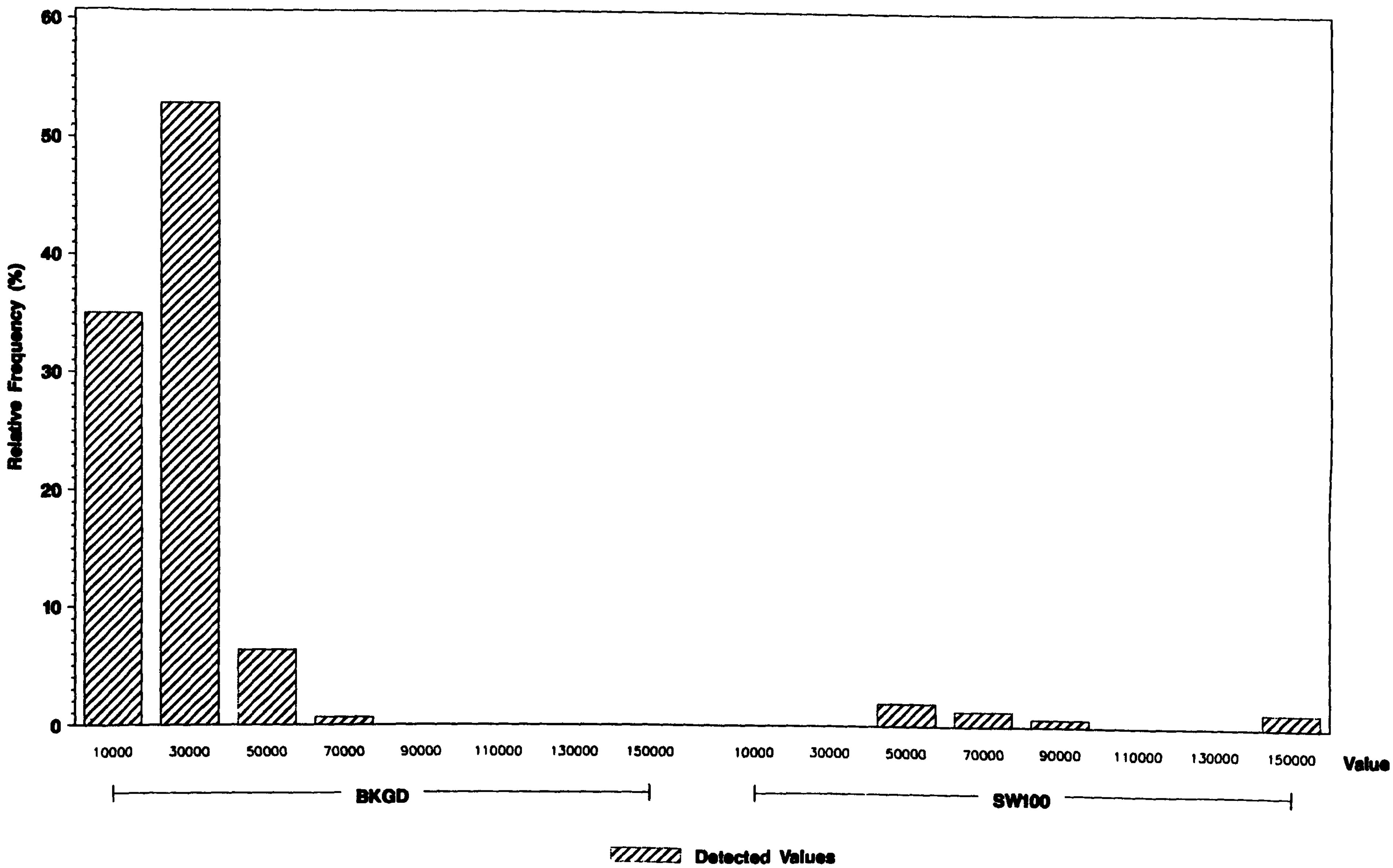
ANALYTE = BICARBONATE AS CACO3



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total CALCIUM (ug/L) in Surface Water

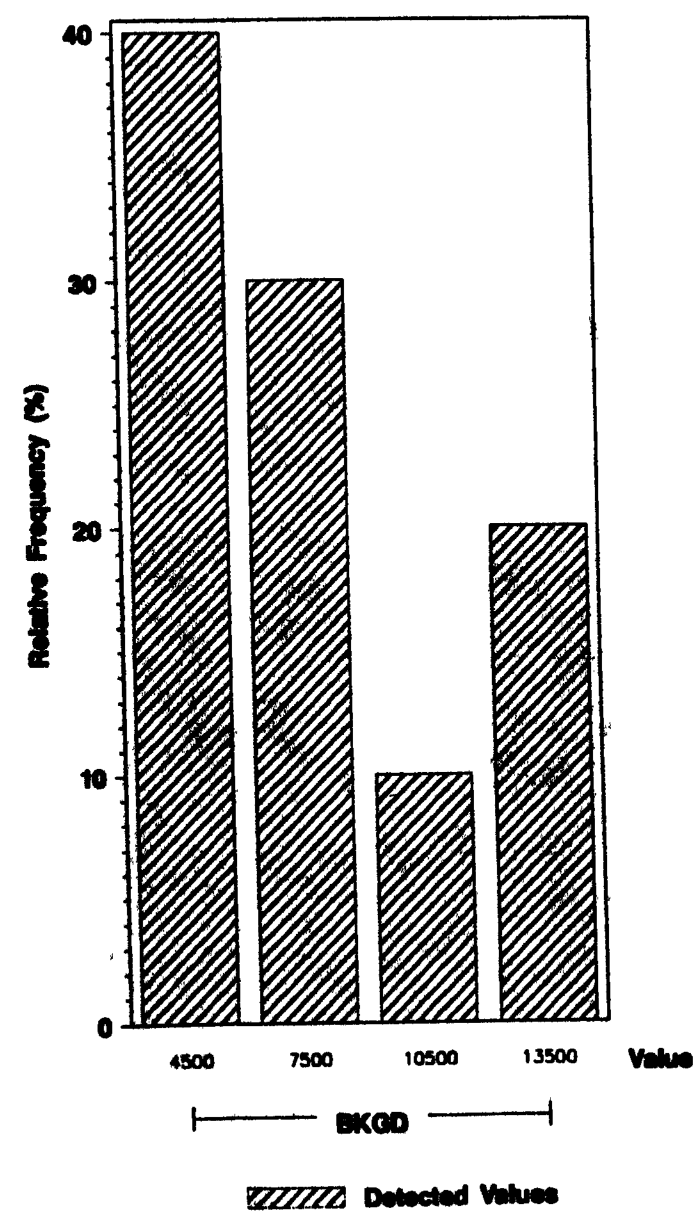
ANALYTE=CALCIUM



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total CBOD5 (ug/L) in Surface Water

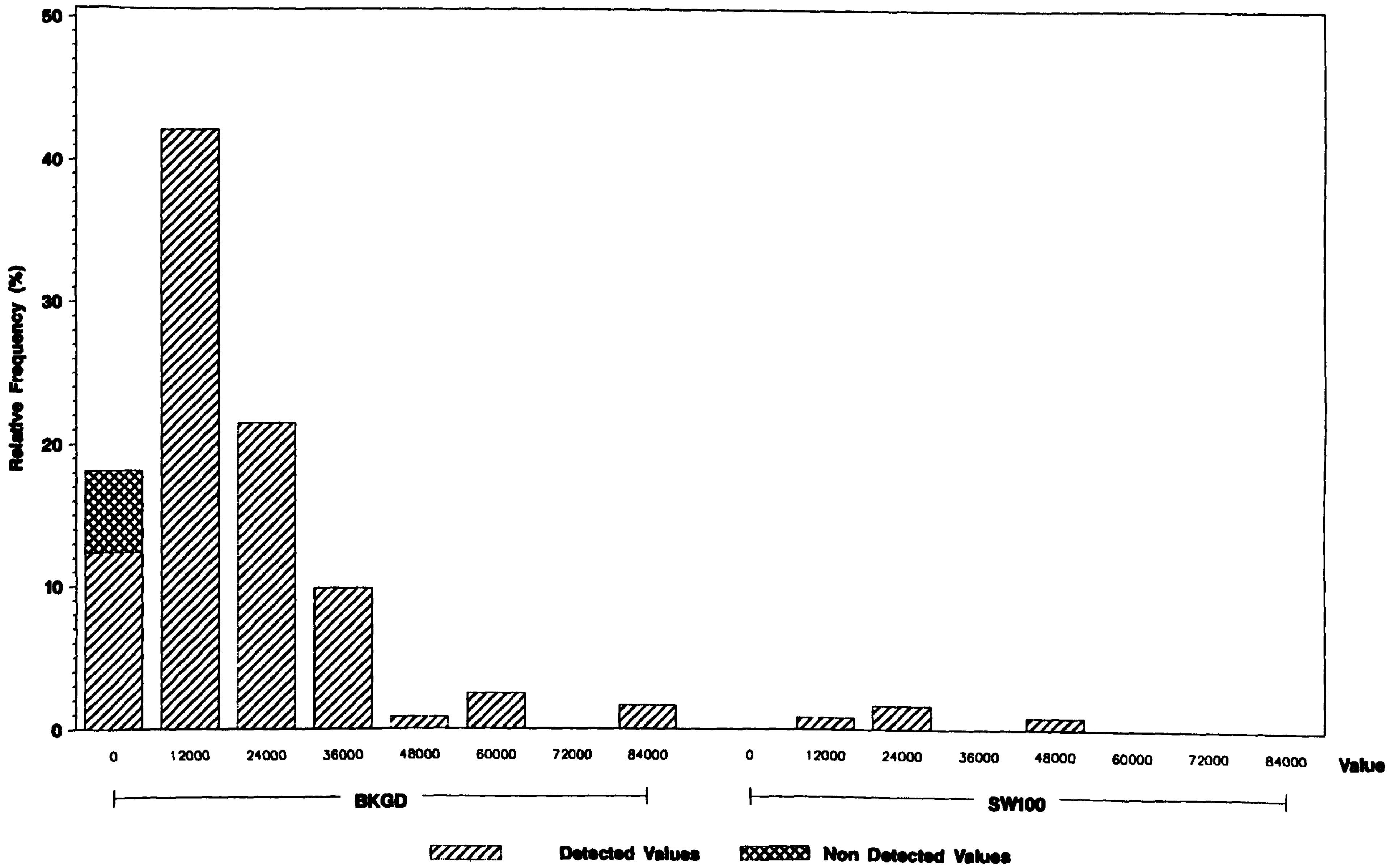
ANALYTE=CBOD5



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total CHLORIDE (ug/L) in Surface Water

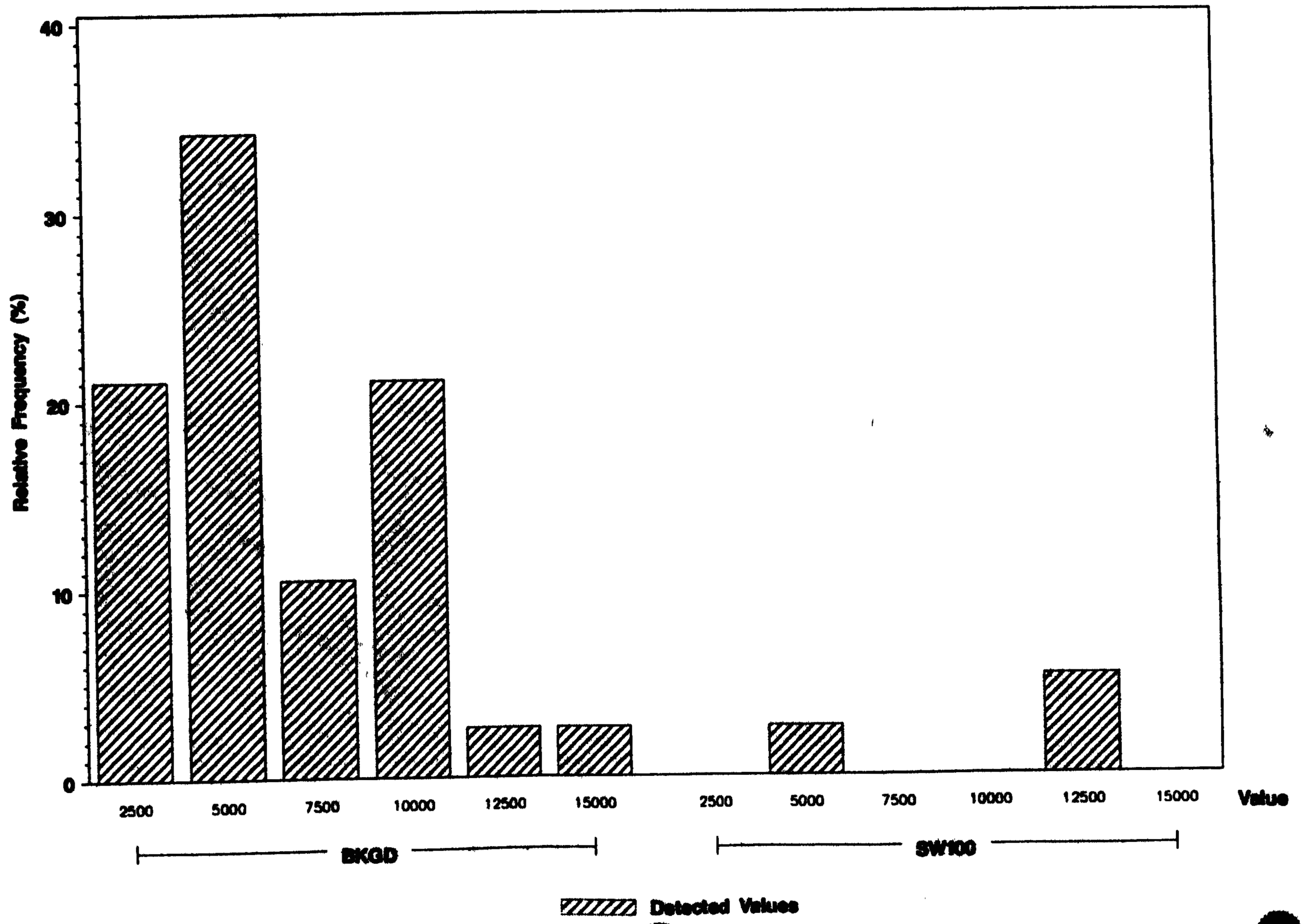
ANALYTE=CHLORIDE



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total DISSOLVED ORGANIC CARBON (ug/L) In Surface Water

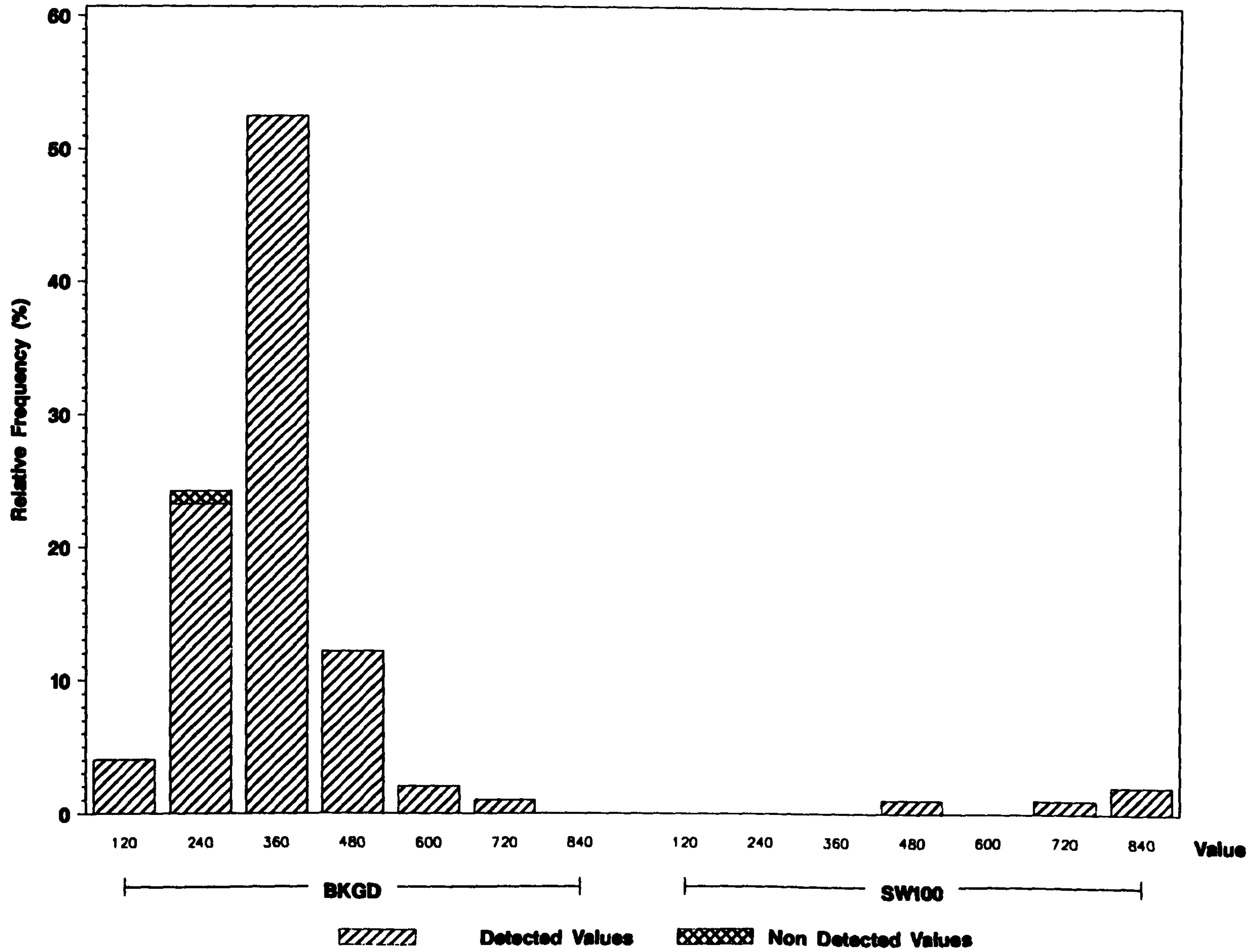
ANALYTE=DISSOLVED ORGANIC CARBON



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total FLUORIDE (ug/L) in Surface Water

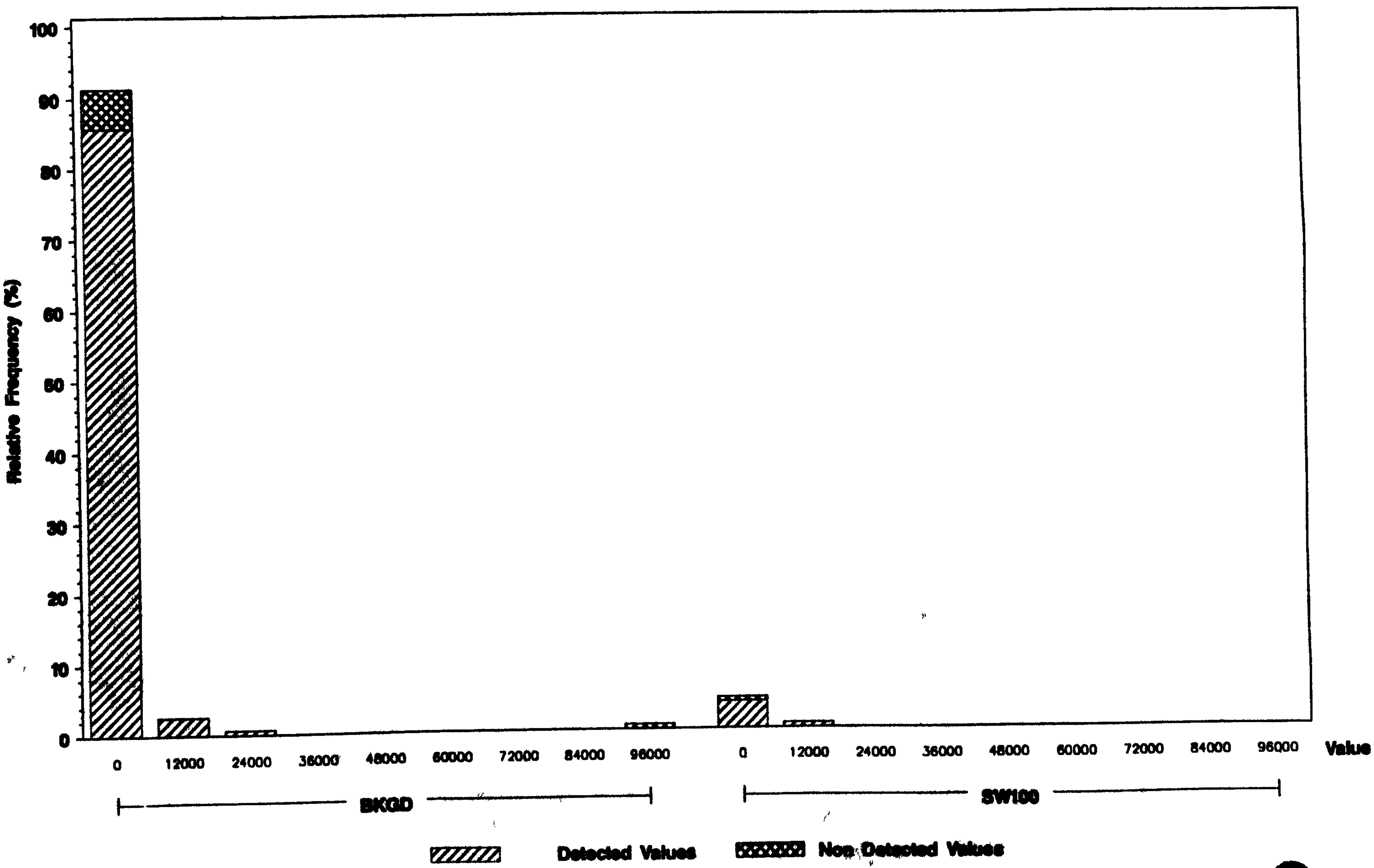
ANALYTE = FLUORIDE



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total IRON (ug/L) In Surface Water

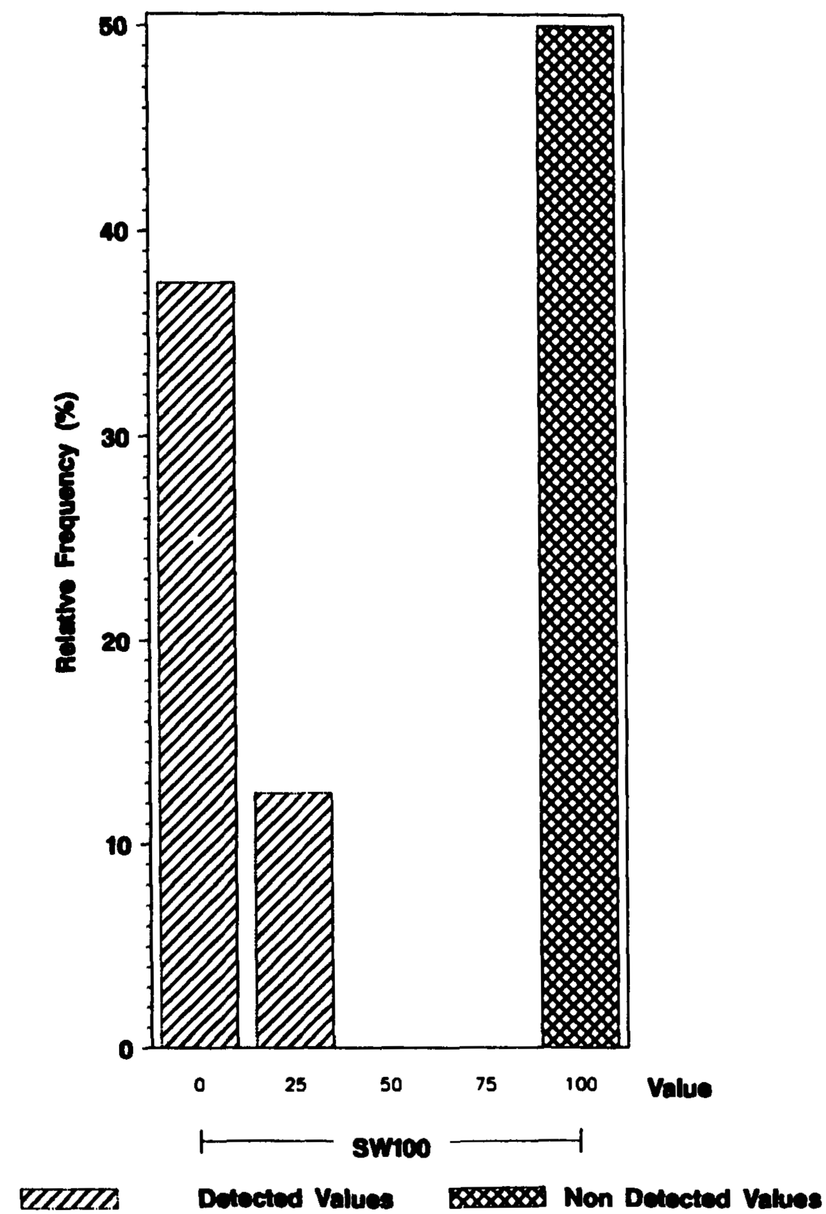
ANALYTE = IRON



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total LITHIUM (ug/L) in Surface Water

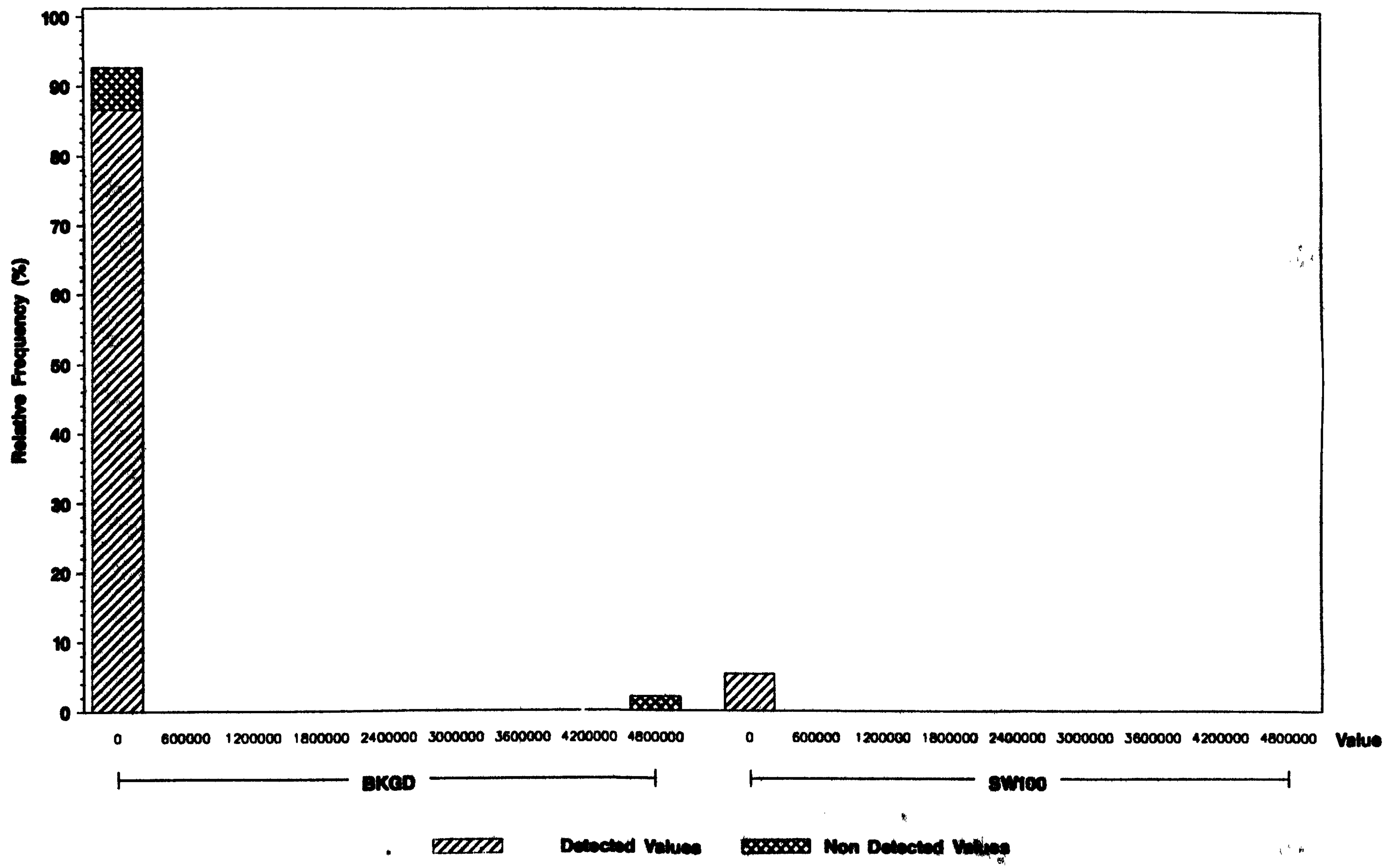
ANALYTE=LITHIUM



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total MAGNESIUM (ug/L) In Surface Water

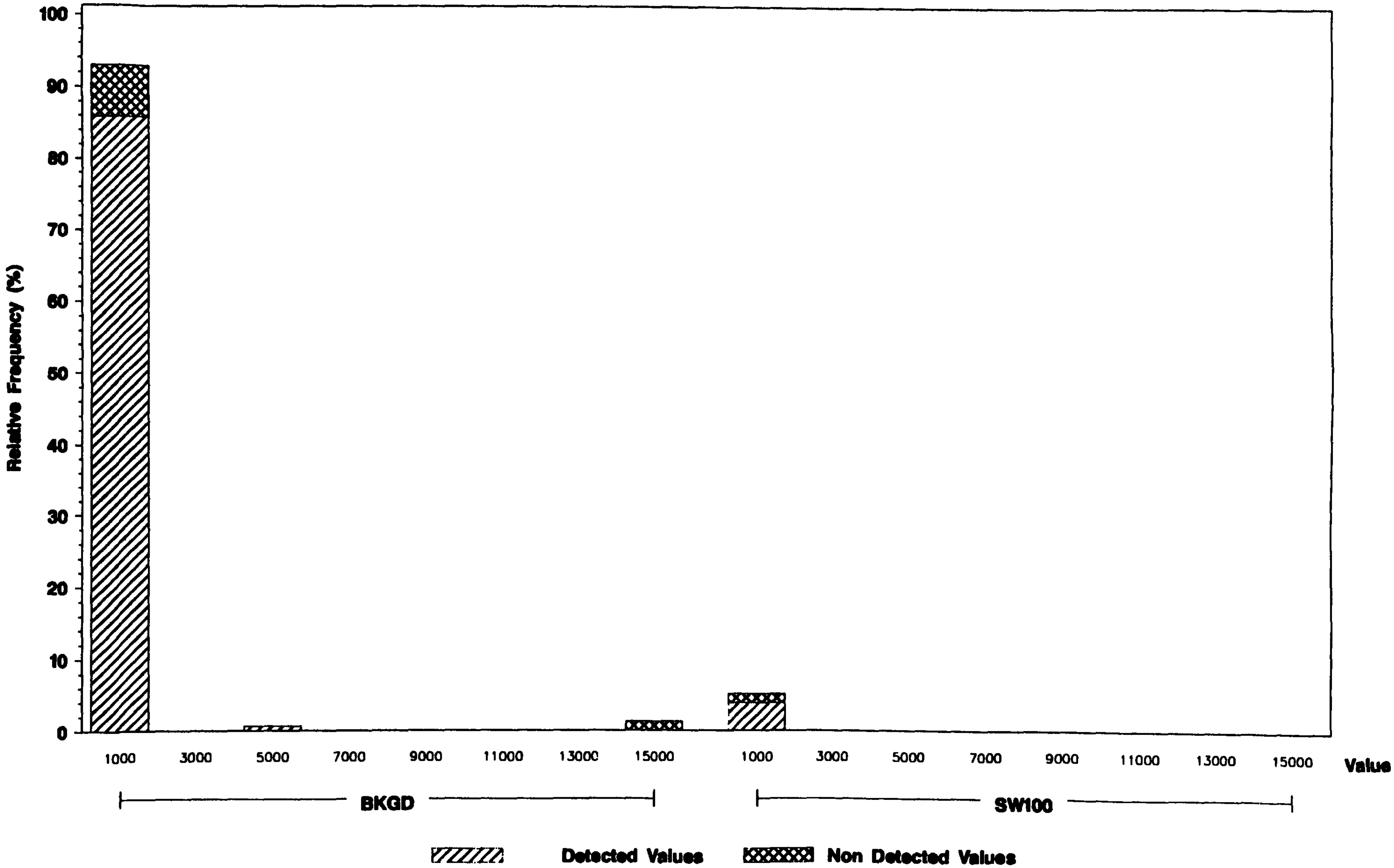
ANALYTE = MAGNESIUM



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total MANGANESE (ug/L) in Surface Water

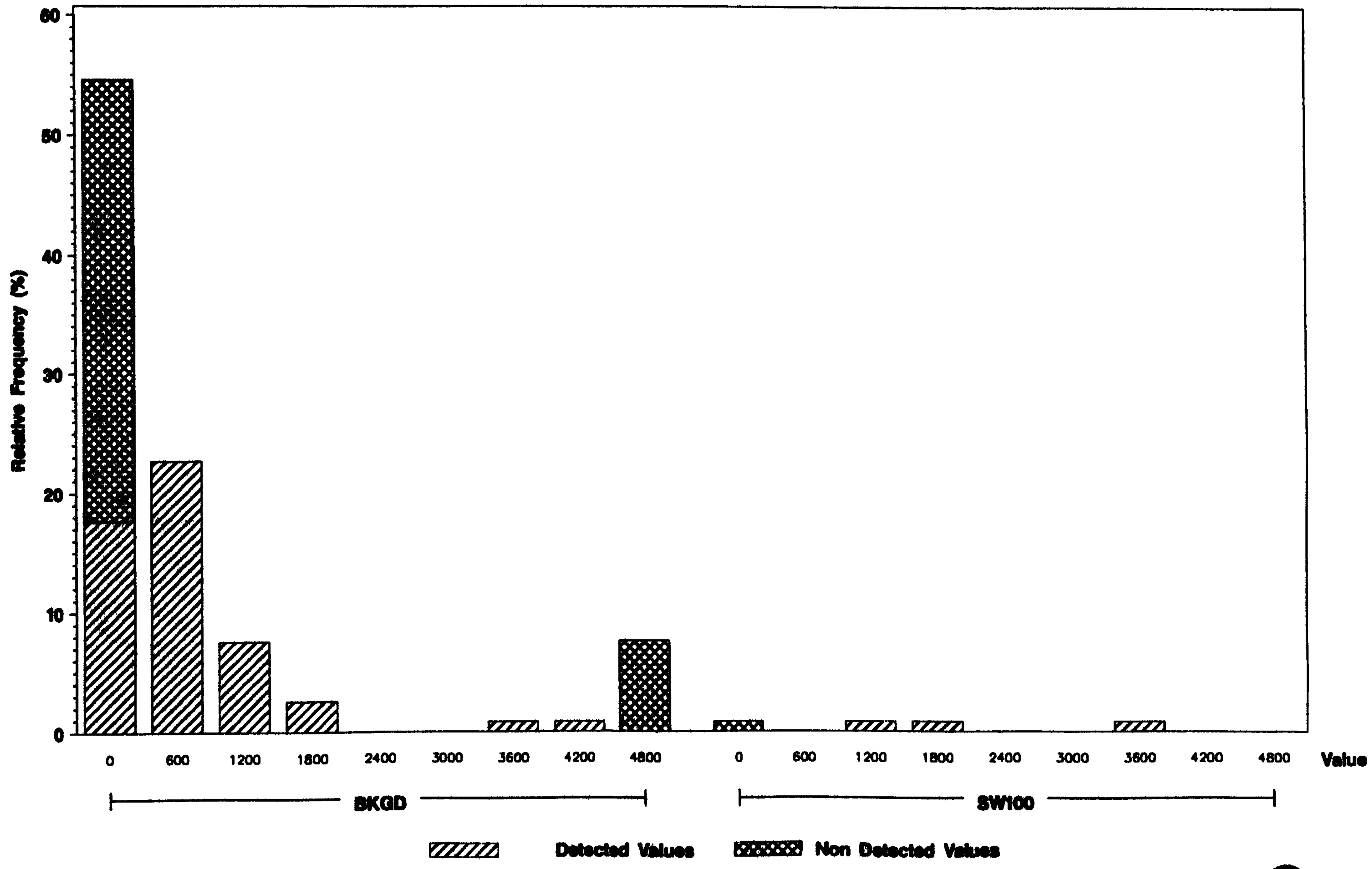
ANALYTE=MANGANESE



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total NITRATE/NITRITE (ug/L) in Surface Water

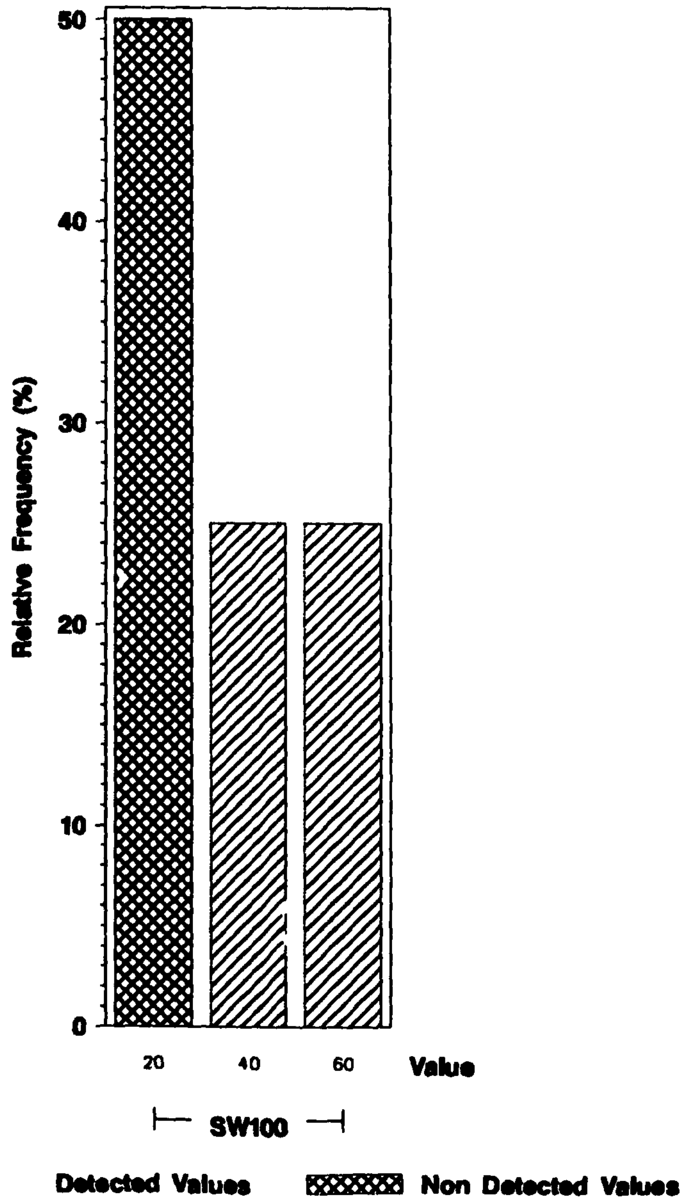
ANALYTE = NITRATE/NITRITE



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total NITRITE (ug/L) in Surface Water

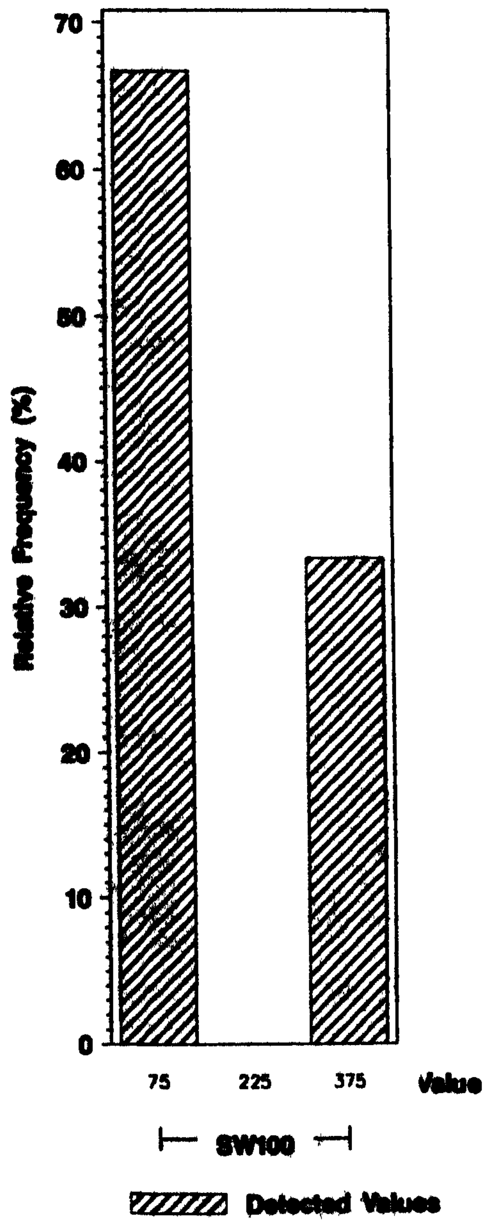
ANALYTE=NITRITE



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total PHOSPHORUS (ug/L) In Surface Water

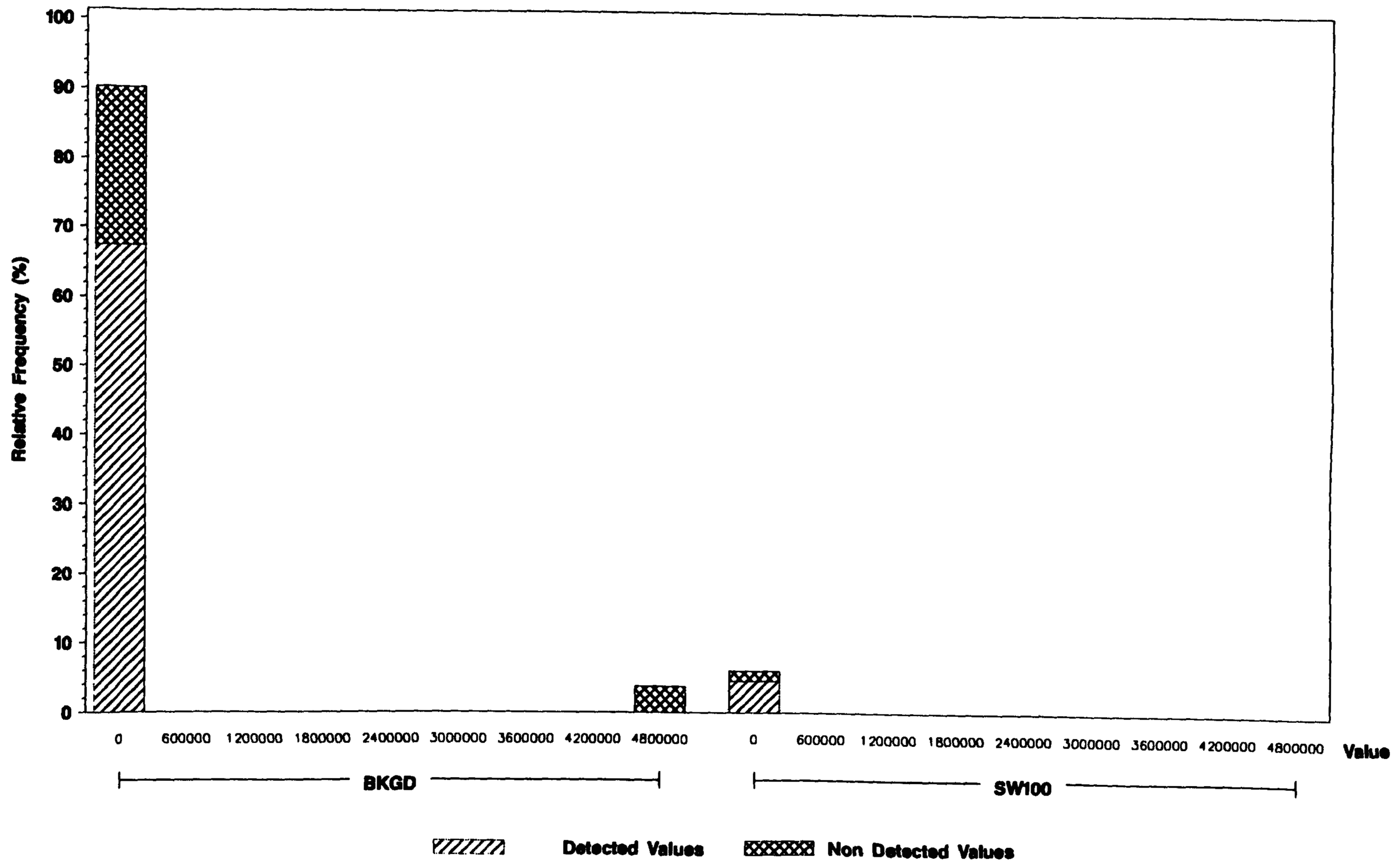
ANALYTE=PHOSPHORUS



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total POTASSIUM (ug/L) in Surface Water

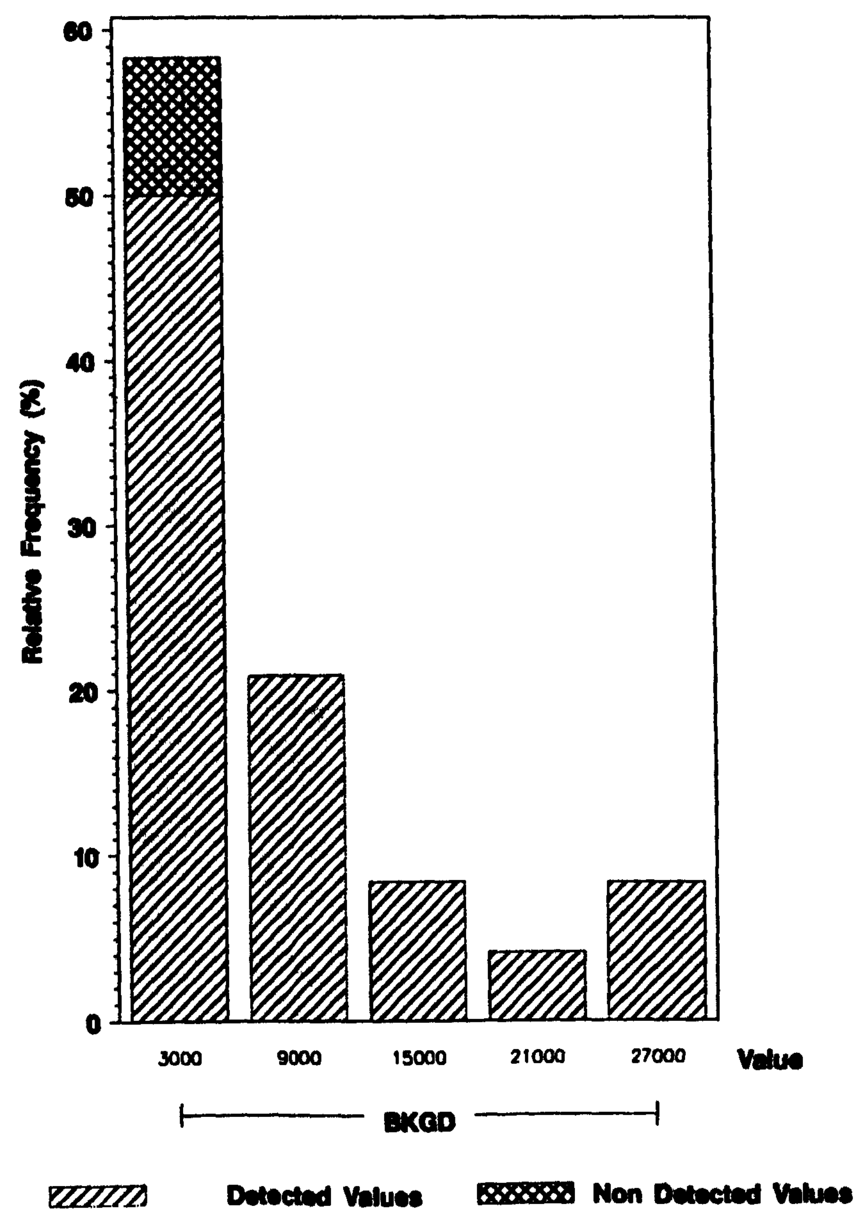
ANALYTE = POTASSIUM



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total SILICA (ug/L) In Surface Water

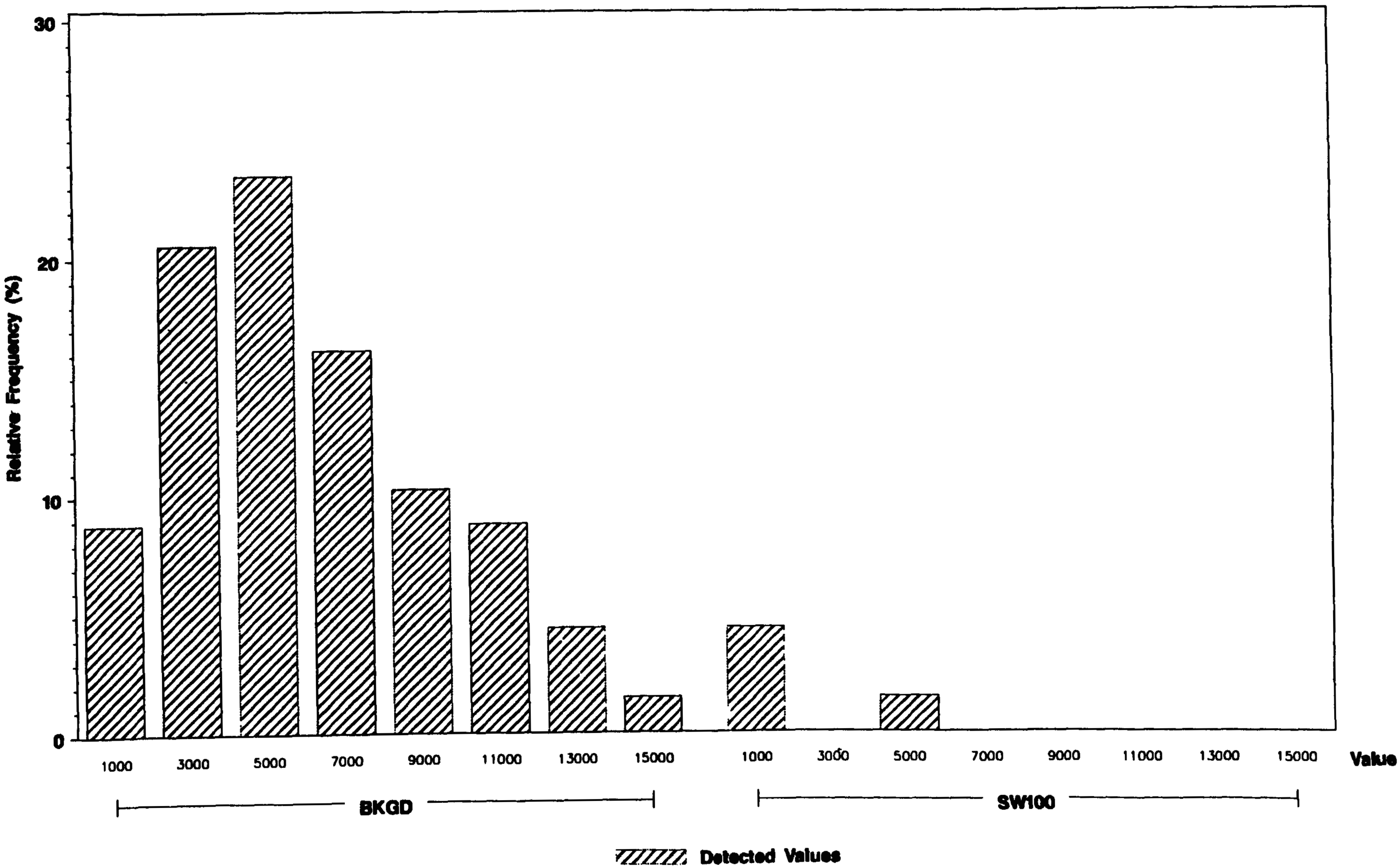
ANALYTE = SILICA



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total SILICON (ug/L) In Surface Water

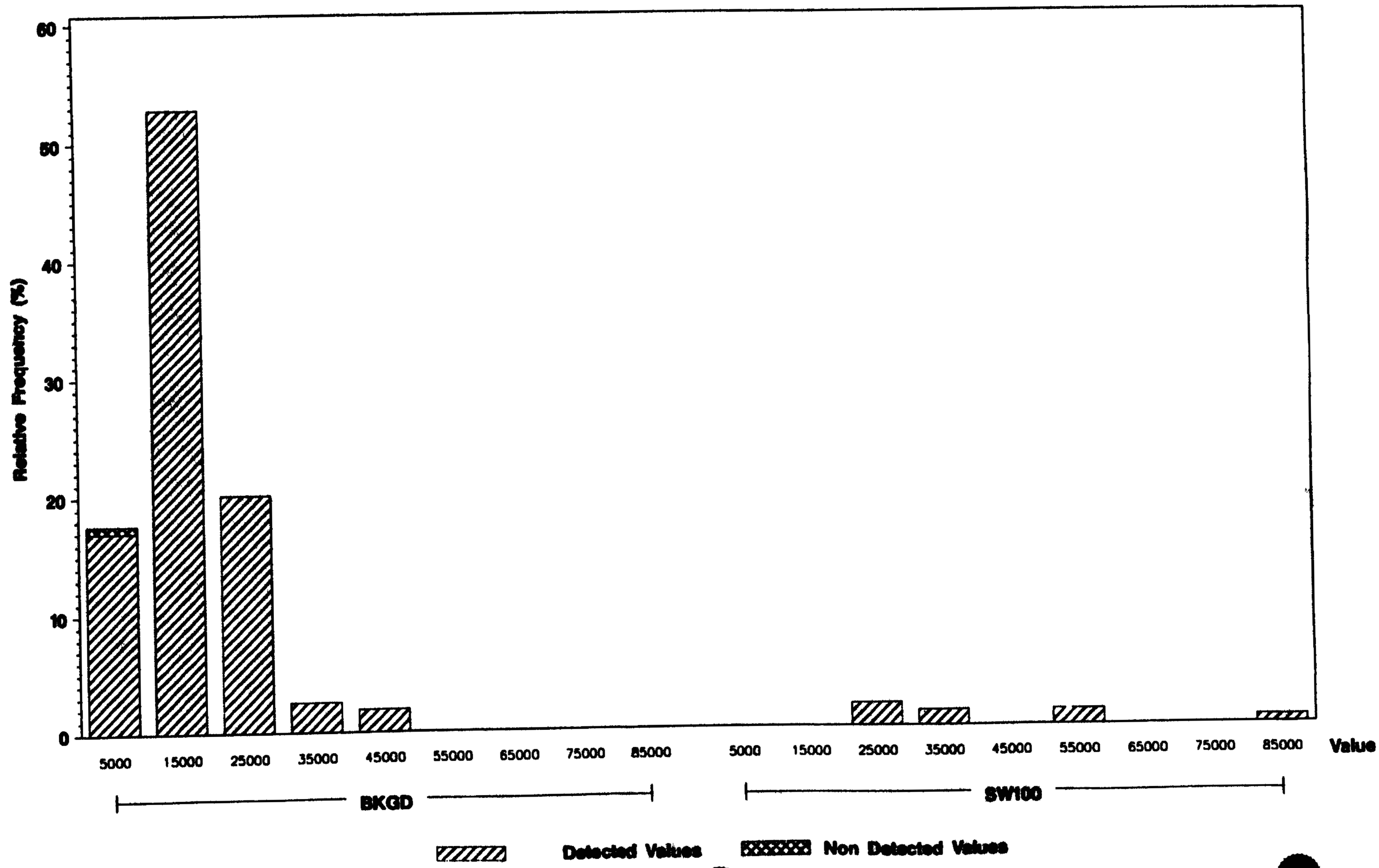
ANALYTE=SILICON



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total SODIUM (ug/L) in Surface Water

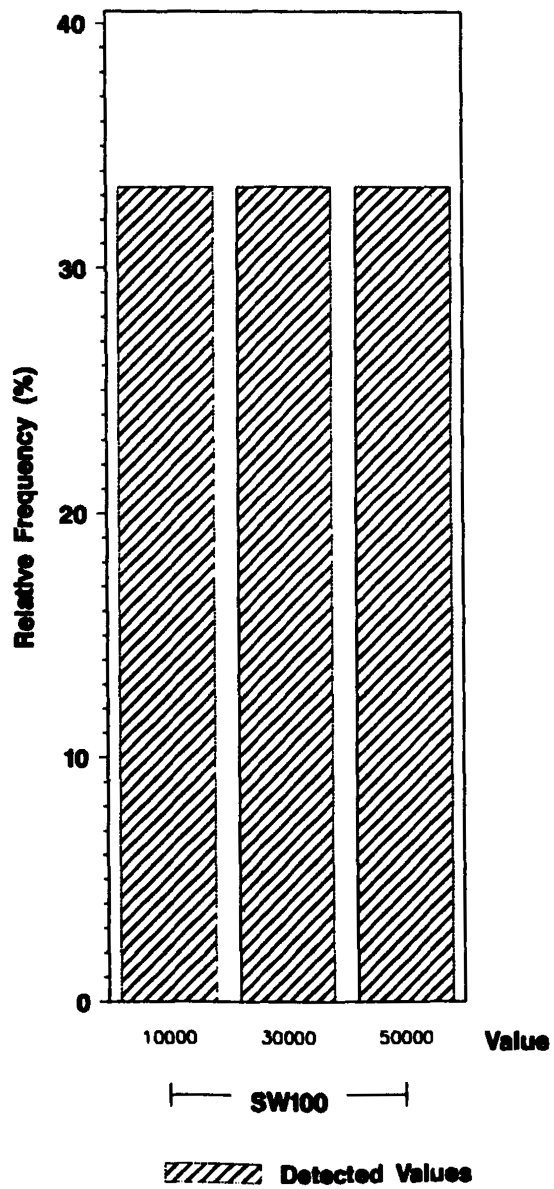
ANALYTE=SODIUM



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total SOLIDS, NONVOLATILE SUSPENDED (ug/L) in Surface Water

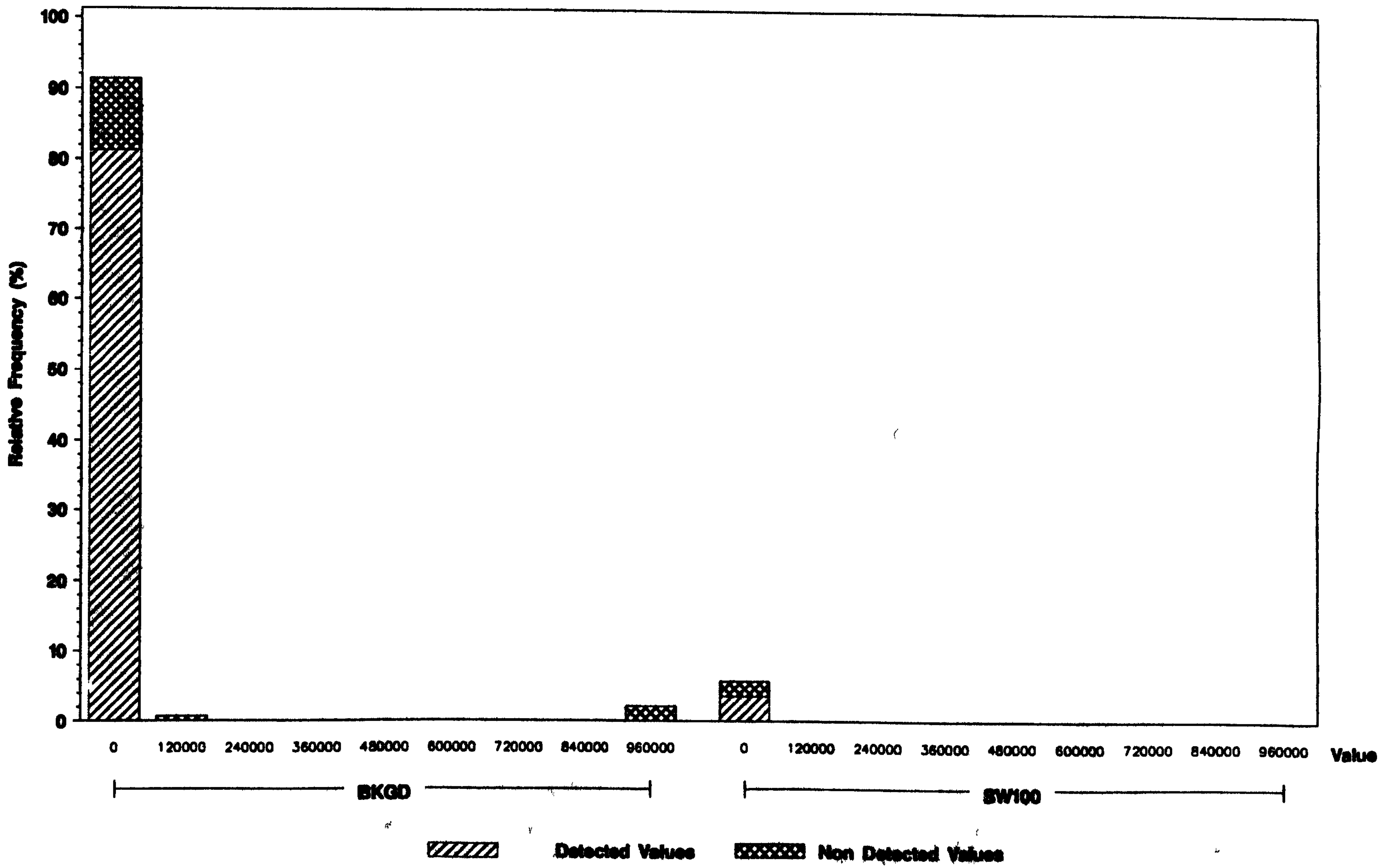
ANALYTE = SOLIDS, NONVOLATILE SUSPENDED



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total STRONTIUM (ug/L) in Surface Water

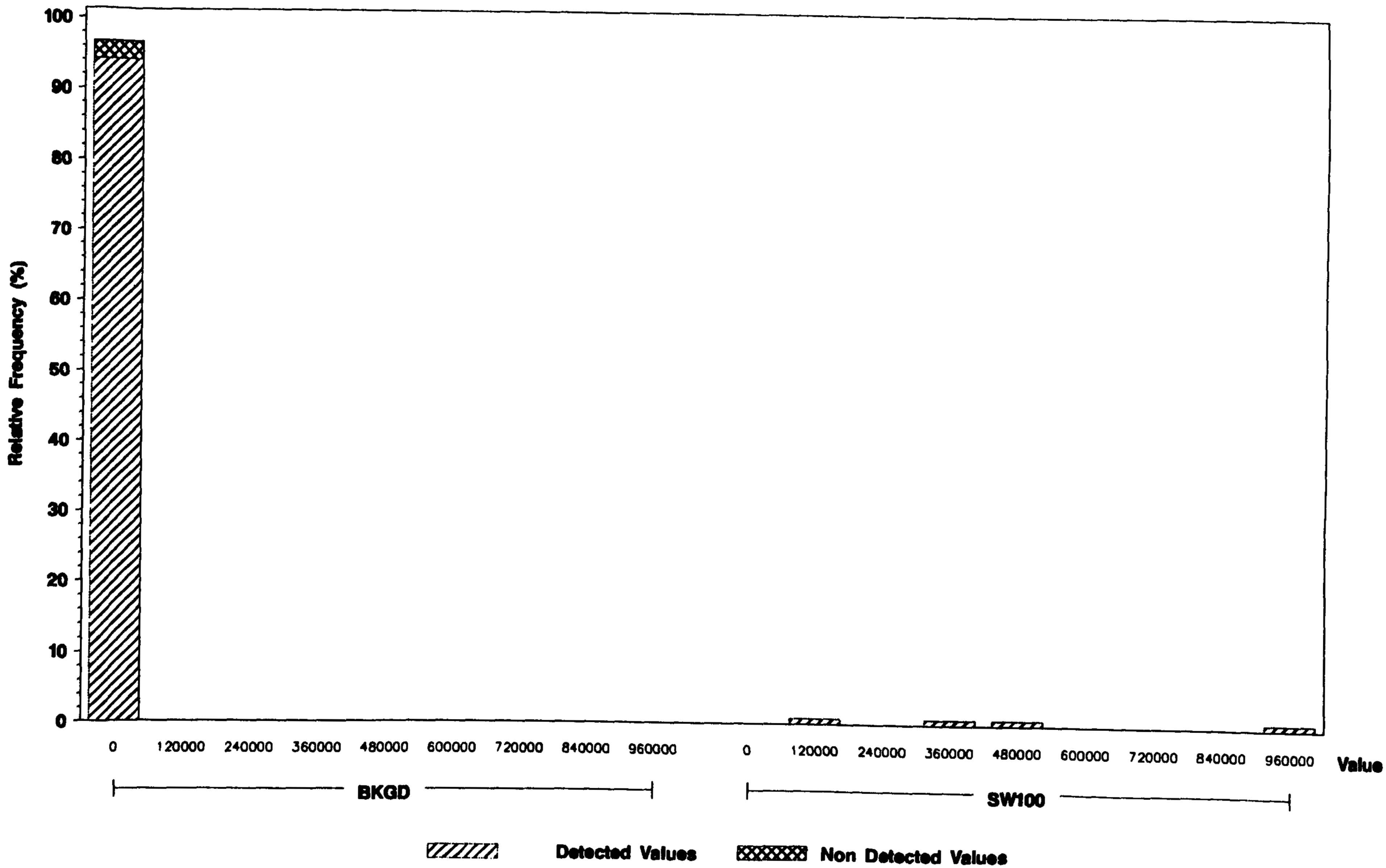
ANALYTE = STRONTIUM



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total SULFATE (ug/L) in Surface Water

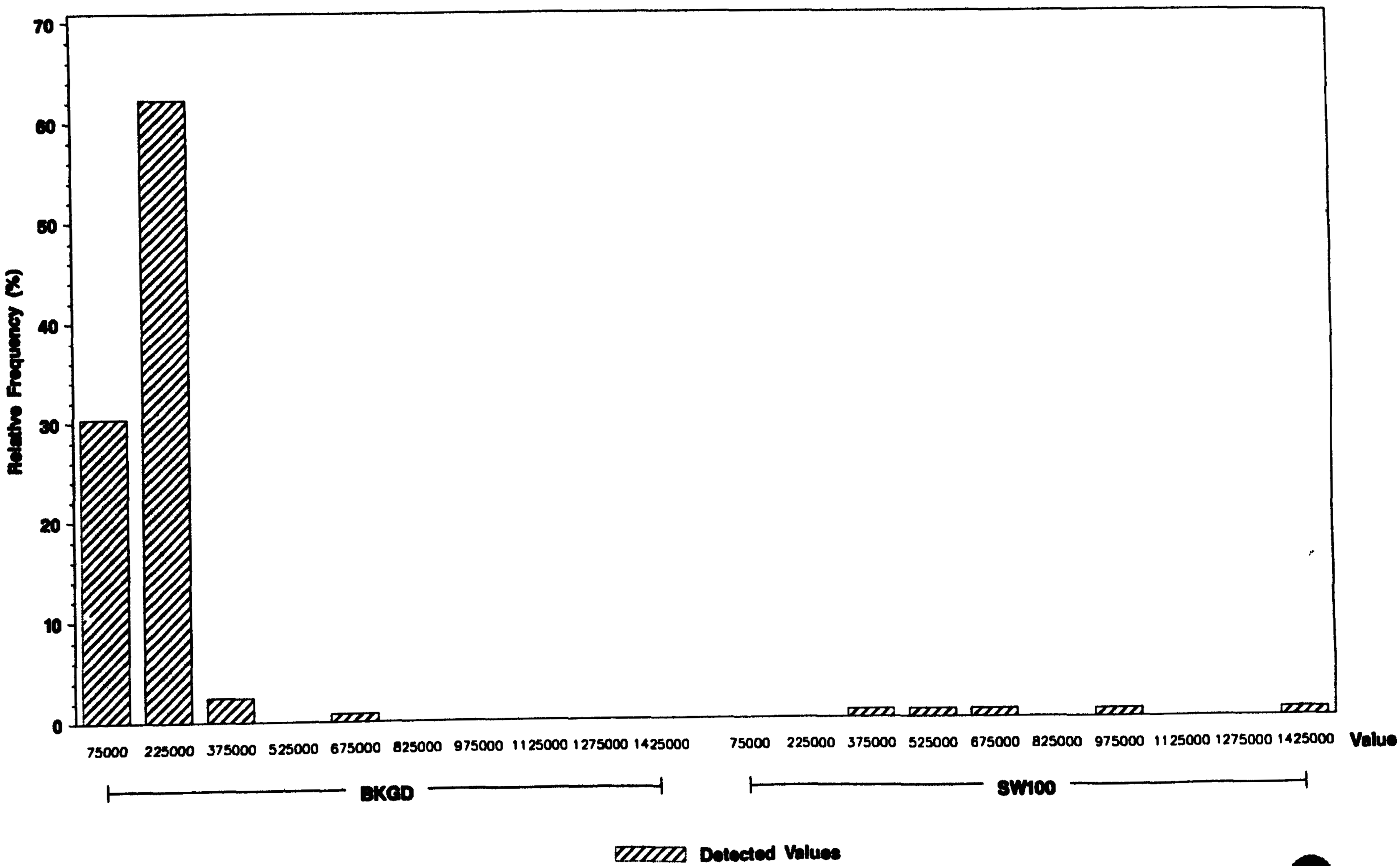
ANALYTE = SULFATE



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total TOTAL DISSOLVED SOLIDS (ug/L) in Surface Water

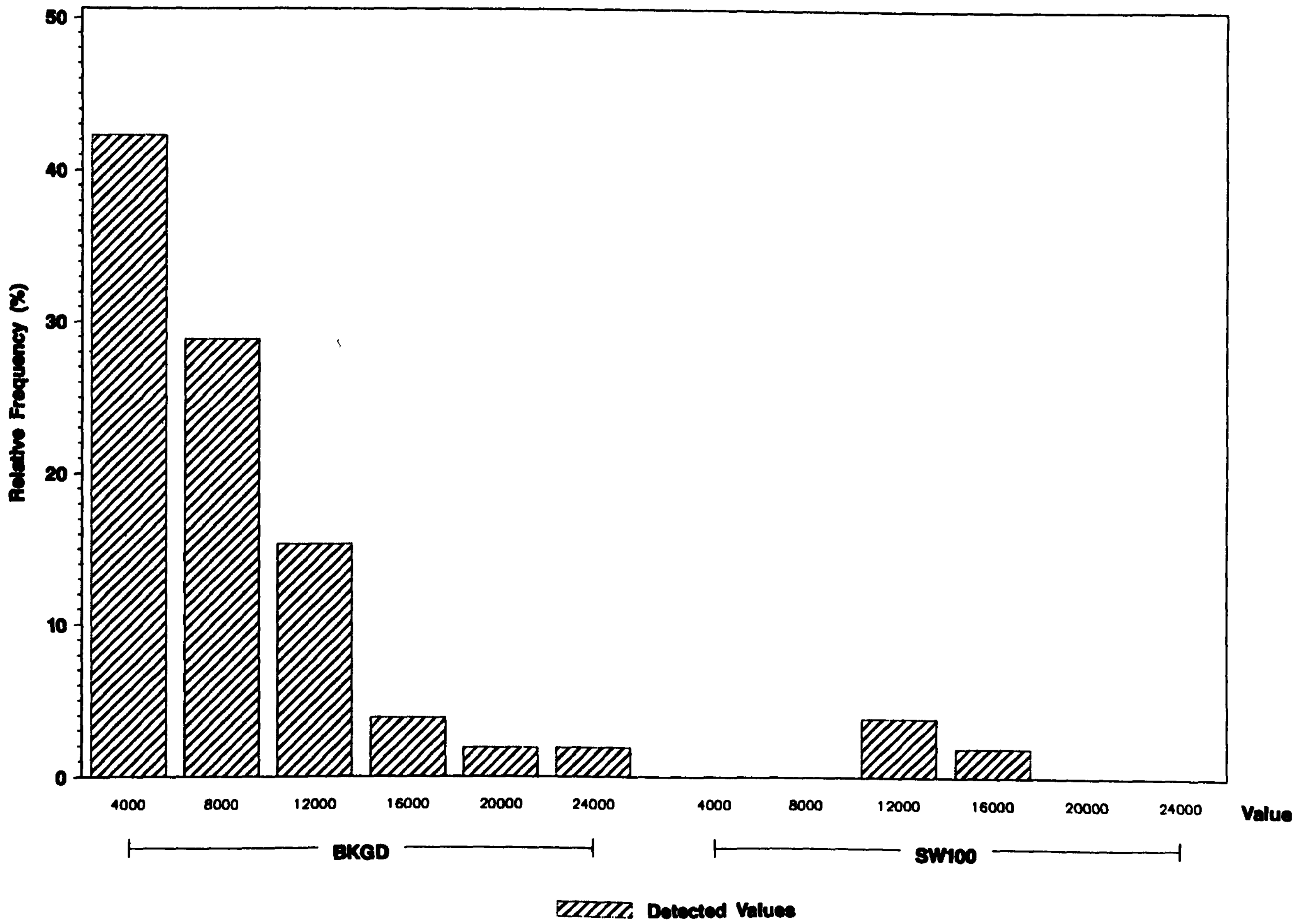
ANALYTE=TOTAL DISSOLVED SOLIDS



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total TOTAL ORGANIC CARBON (ug/L) In Surface Water

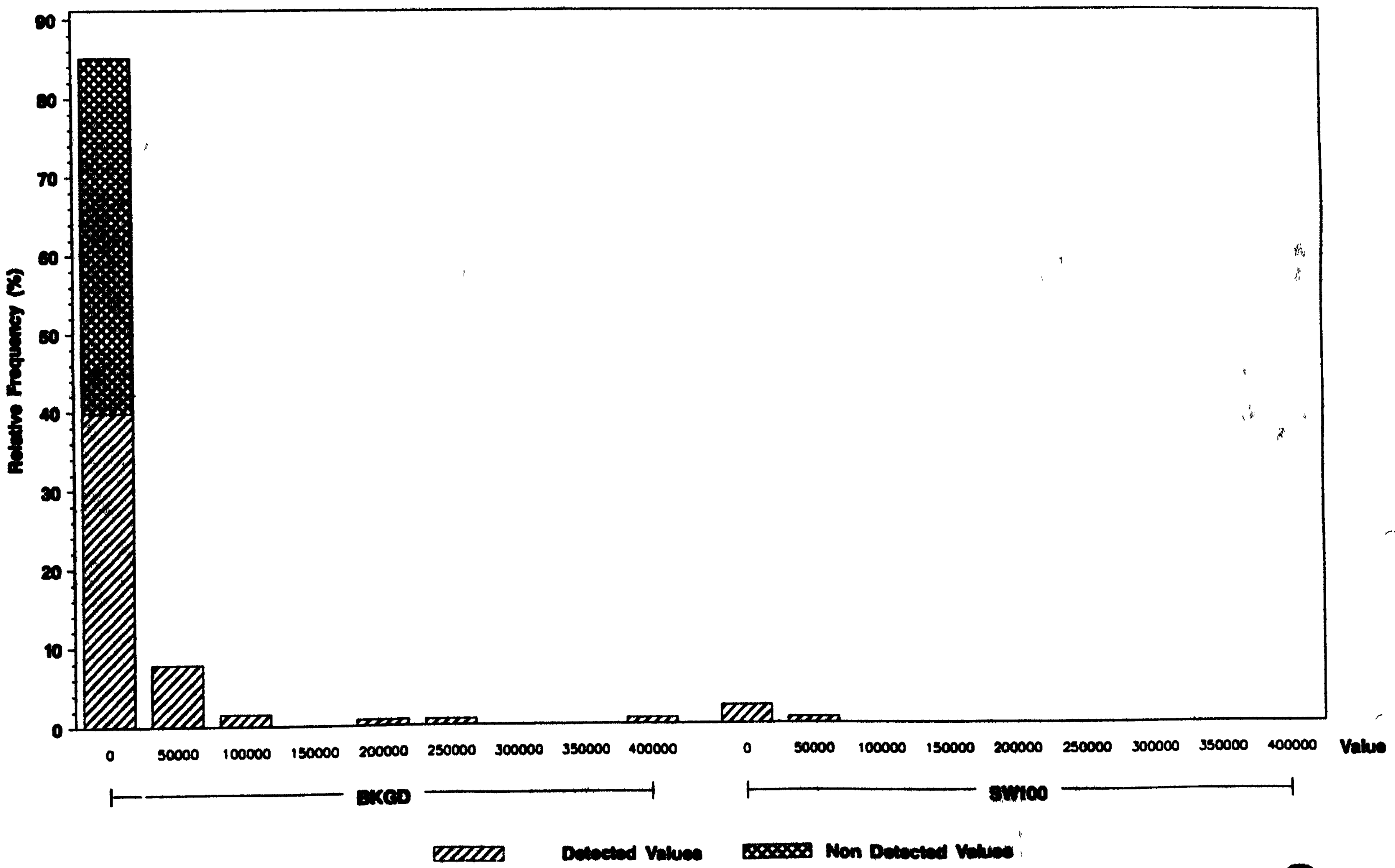
ANALYTE=TOTAL ORGANIC CARBON



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total TOTAL SUSPENDED SOLIDS (ug/L) in Surface Water

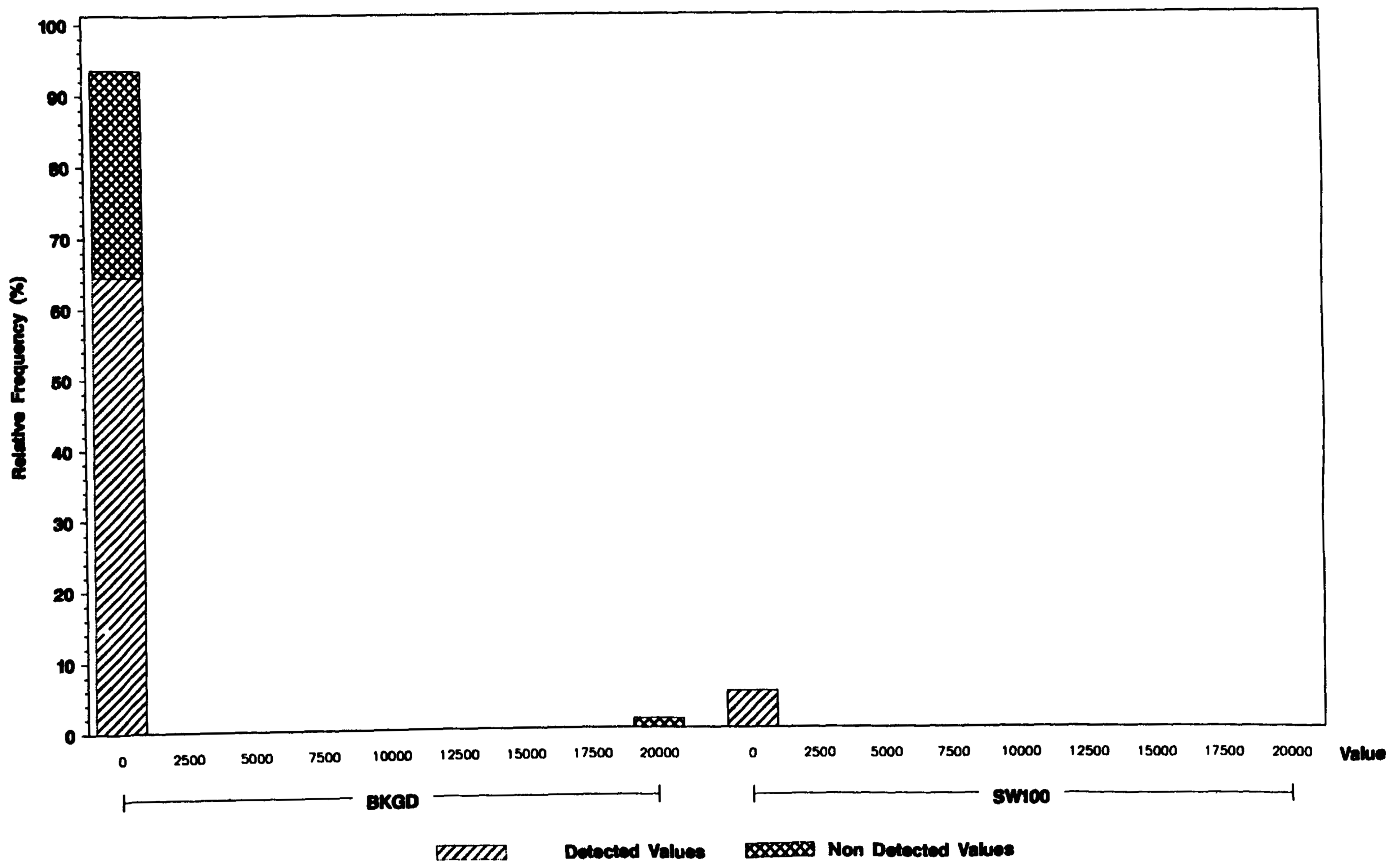
ANALYTE=TOTAL SUSPENDED SOLIDS



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total ZINC (ug/L) in Surface Water

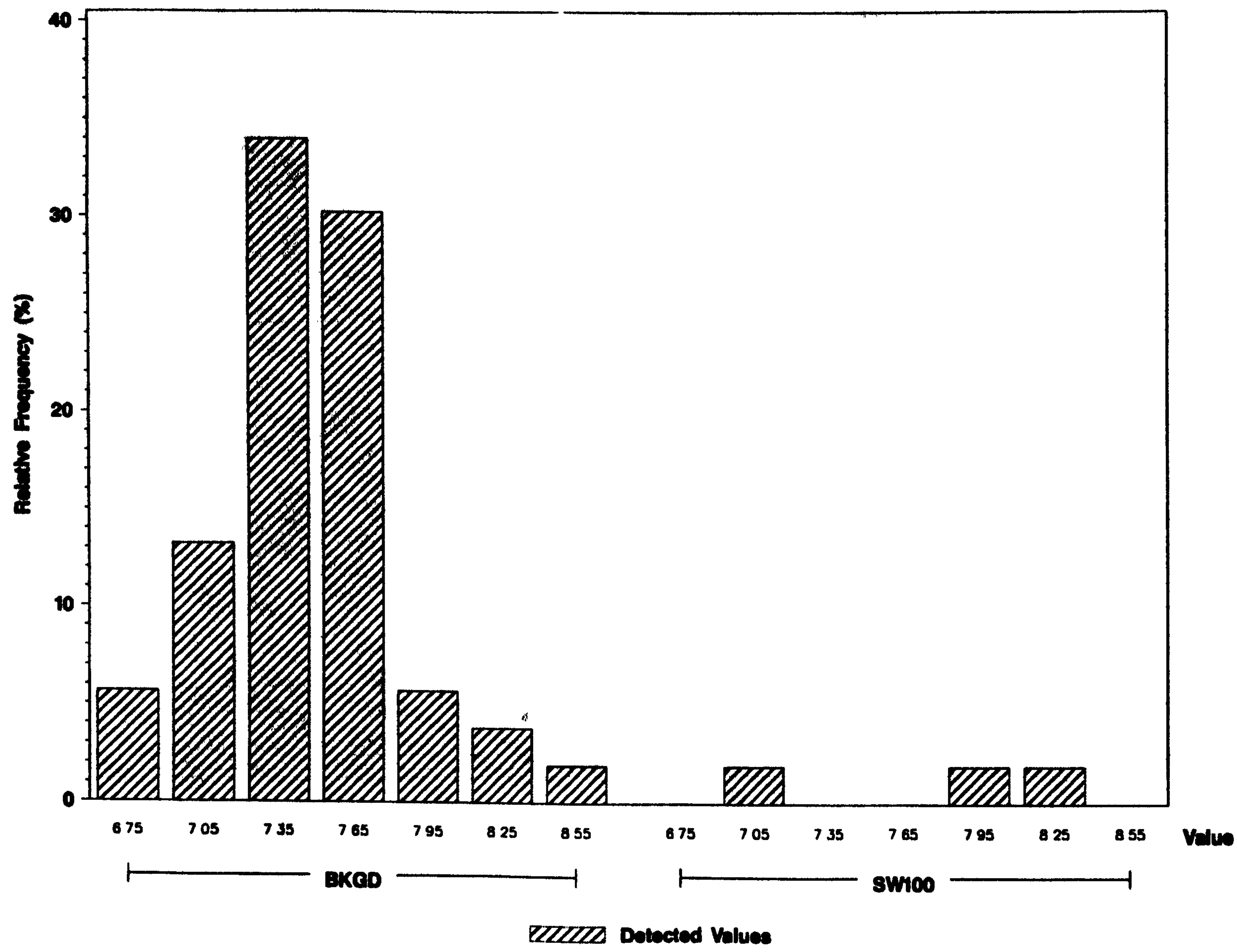
ANALYTE=ZINC



Background vs OU7 Surface Water (SW100) Frequency Histogram

Total pH In Surface Water

ANALYTE = pH



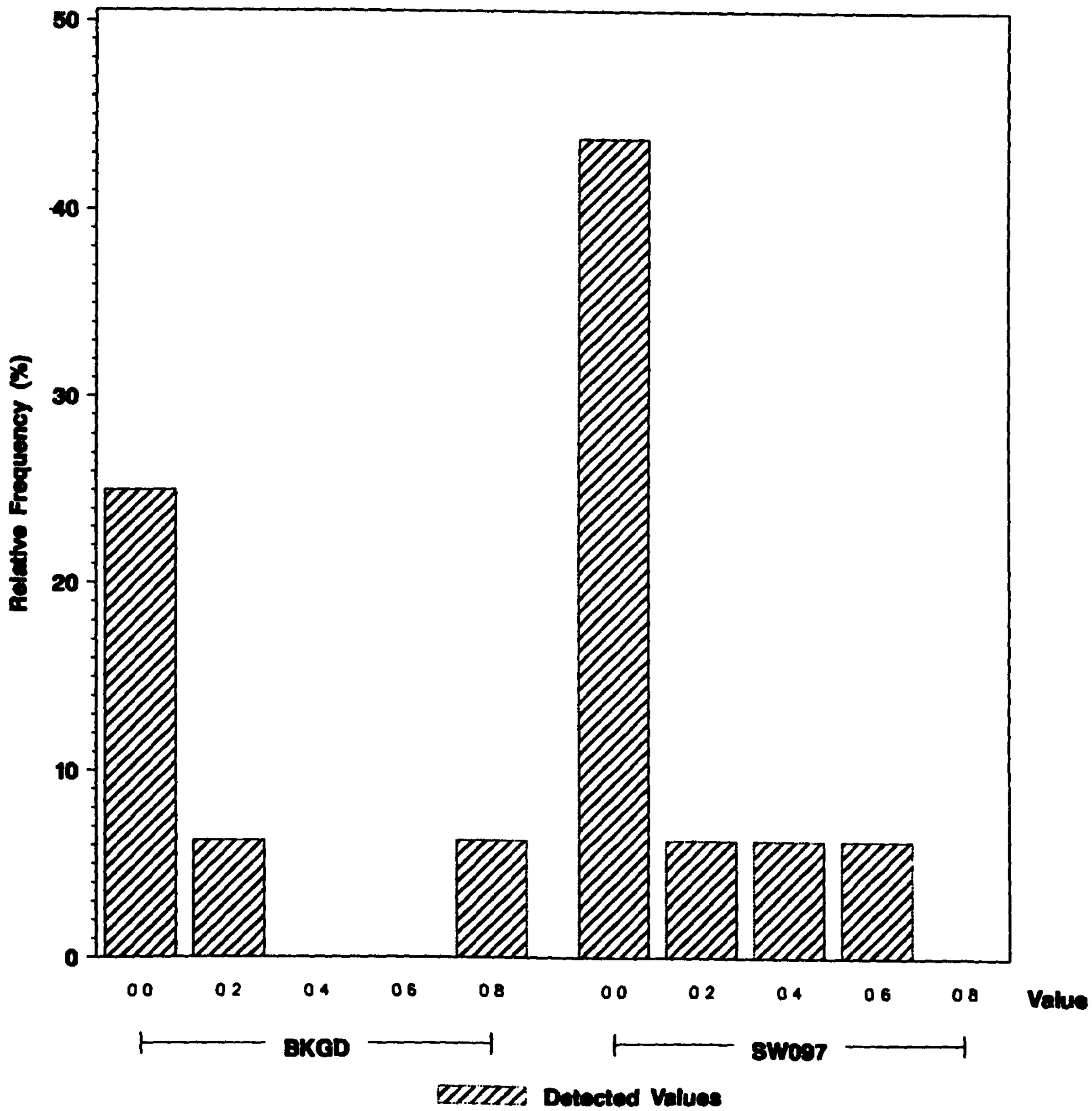
Seep Water

Background vs. OU 7

Background vs OU7 Seep Water Frequency Histogram

Total AMERICIUM – 241 (pCi/L) in Seep Water

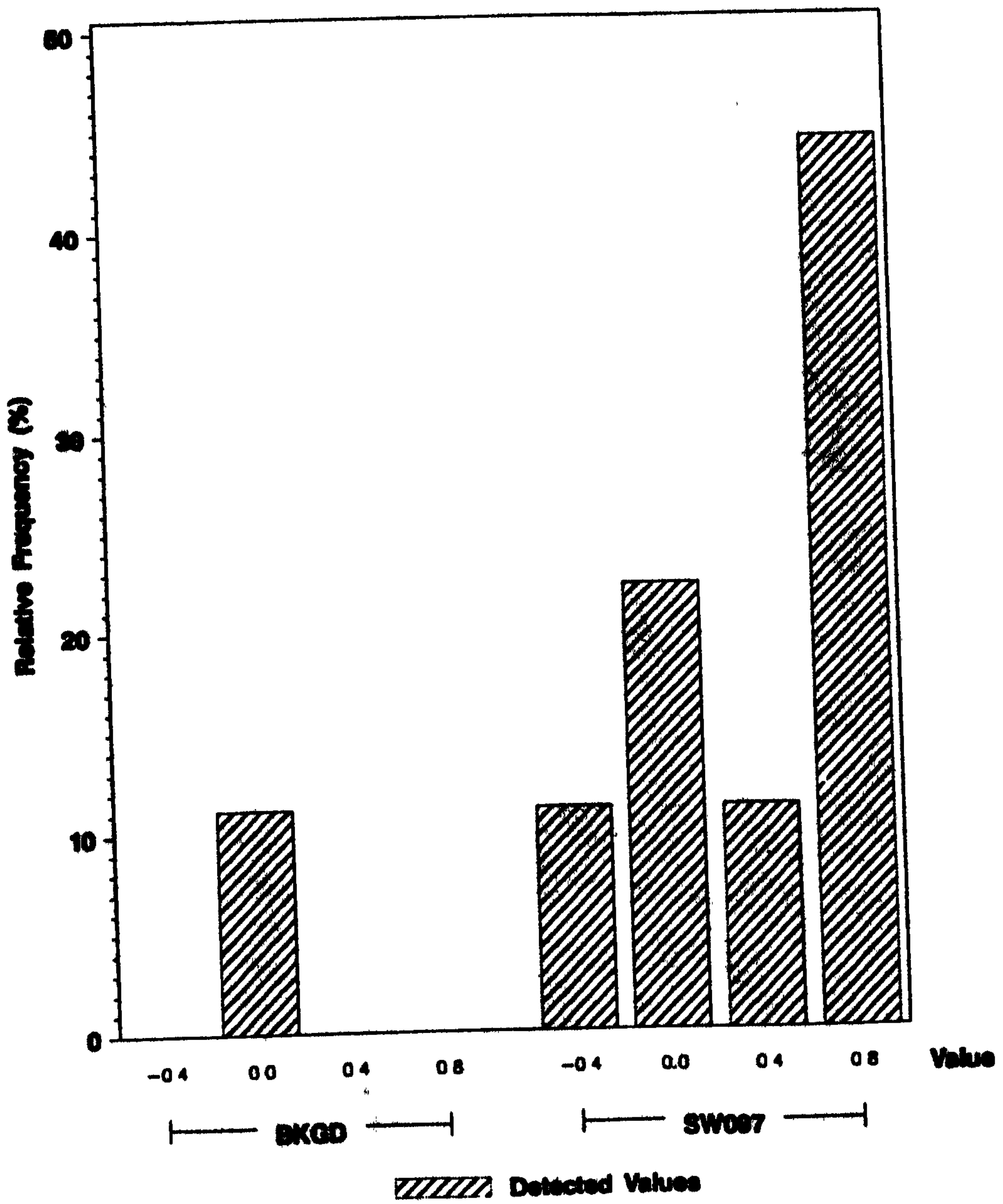
ANALYTE = AMERICIUM – 241



Background vs OU7 Seep Water Frequency Histogram

Total CESIUM-137 (pCi/L) In Seep Water

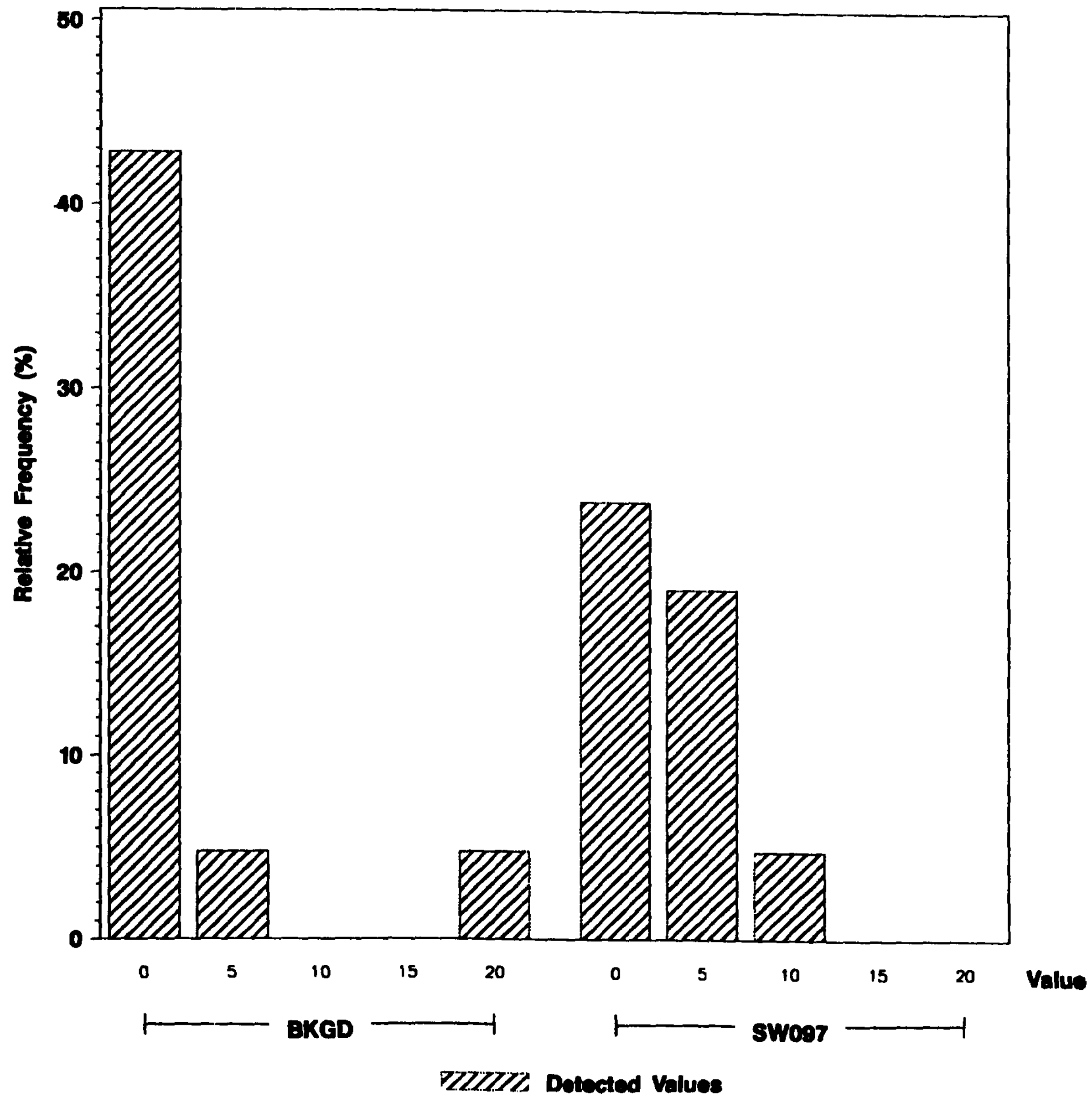
ANALYTE=CESIUM-137



Background vs OU7 Seep Water Frequency Histogram

Total GROSS ALPHA (pCi/L) in Seep Water

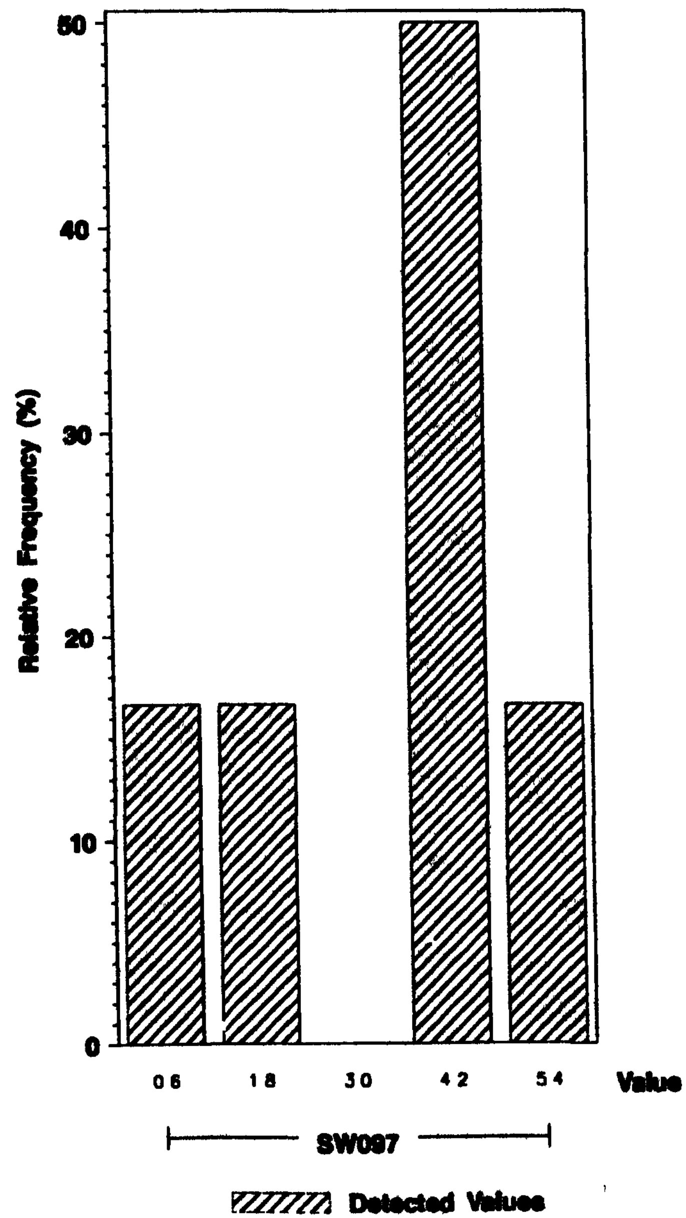
ANALYTE=GROSS ALPHA



Background vs OU7 Seep Water Frequency Histogram

Total GROSS ALPHA – SUSPENDED (pCI/L) In Seep Water

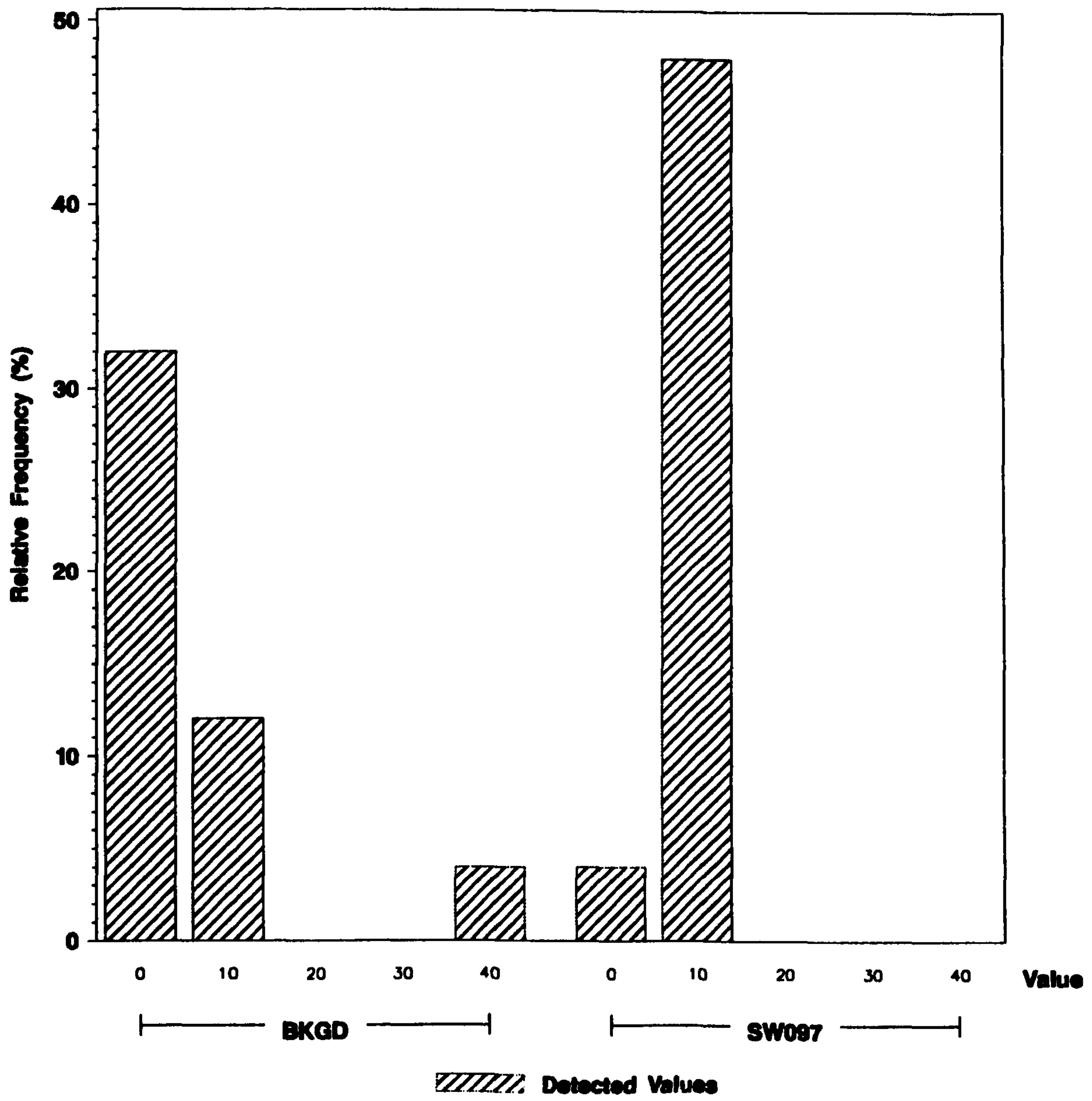
ANALYTE=GROSS ALPHA – SUSPENDED



Background vs OU7 Seep Water Frequency Histogram

Total GROSS BETA (pCi/L) In Seep Water

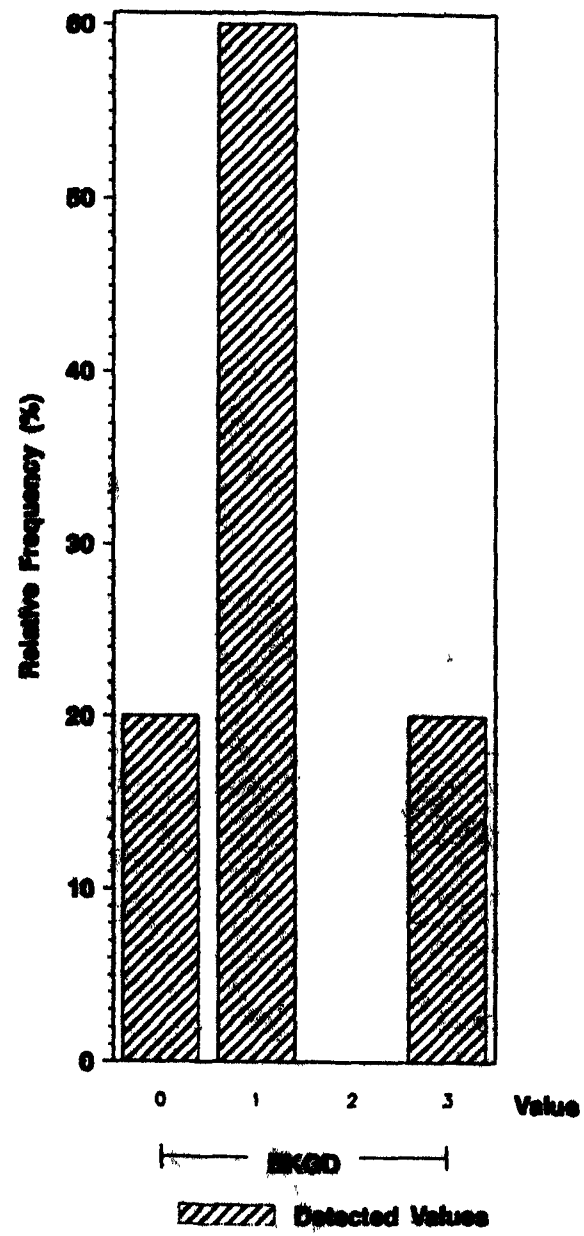
ANALYTE=GROSS BETA



Background vs OU7 Seep Water Frequency Histogram

Total GROSS GAMMA (pCI/L) in Seep Water

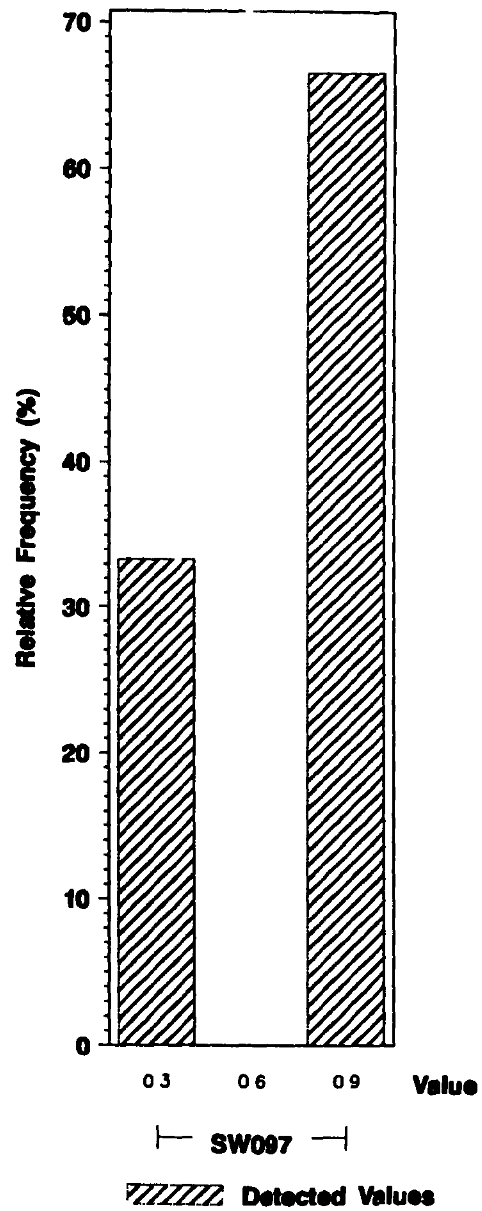
ANALYTE=GROSS GAMMA



Background vs OU7 Seep Water Frequency Histogram

Total NEPTUNIUM – 237 (pCi/L) in Seep Water

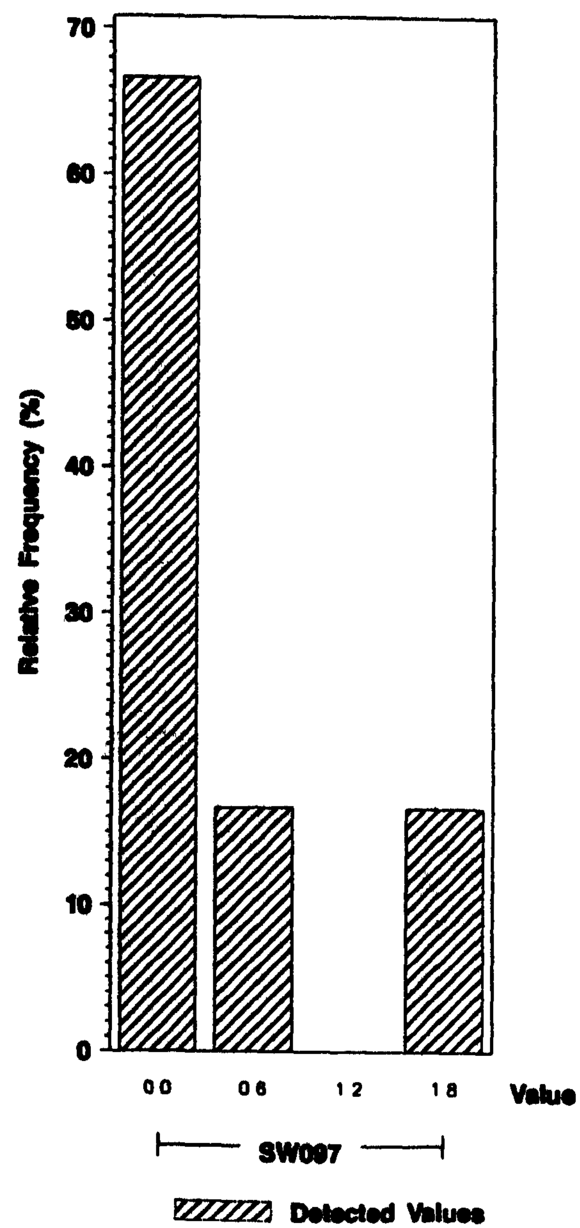
ANALYTE = NEPTUNIUM – 237



Background vs OU7 Seep Water Frequency Histogram

Total PLUTONIUM – 239 (pCi/L) In Seep Water

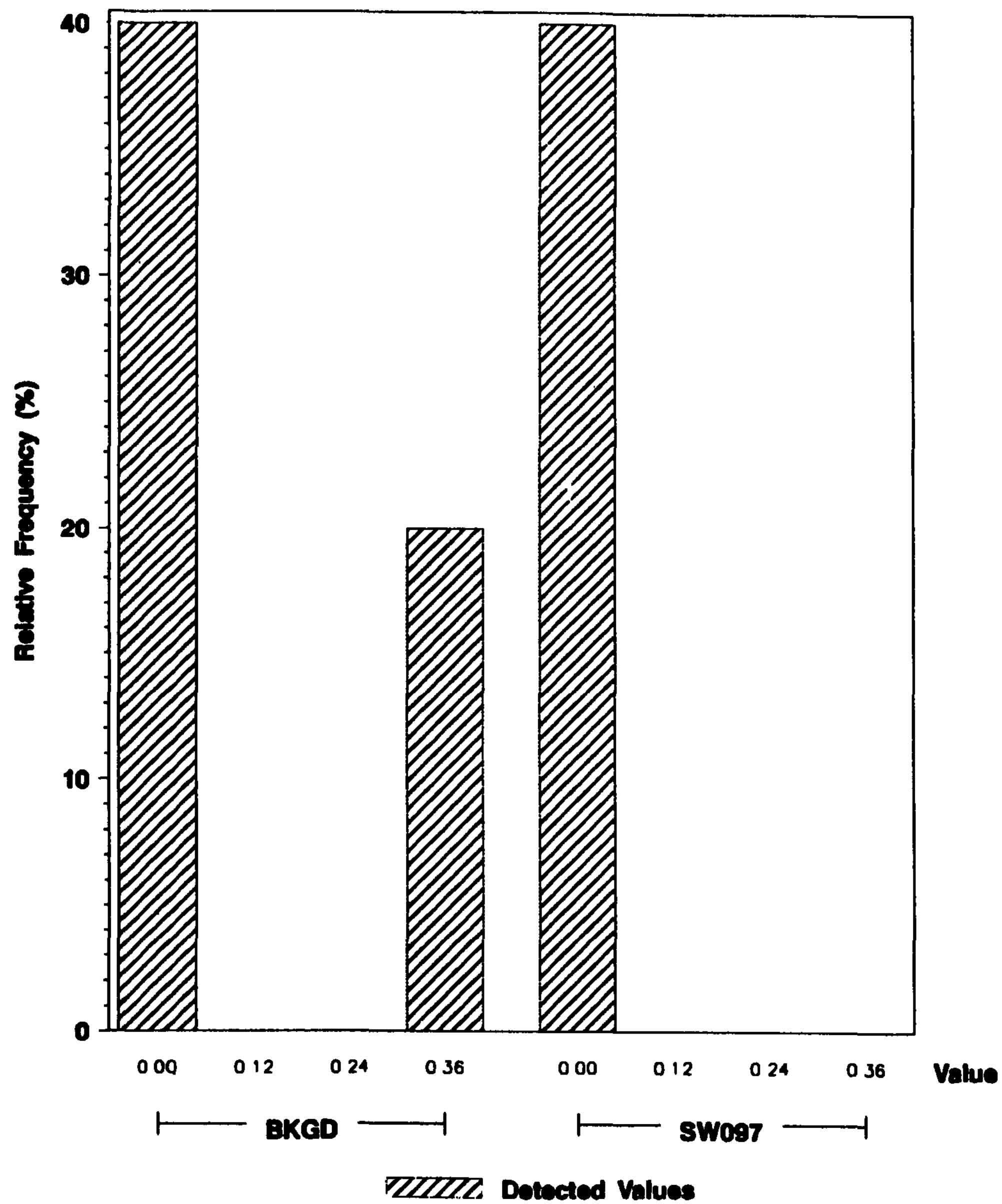
ANALYTE = PLUTONIUM – 239



Background vs OU7 Seep Water Frequency Histogram

Total PLUTONIUM – 239/240 (pCi/L) in Seep Water

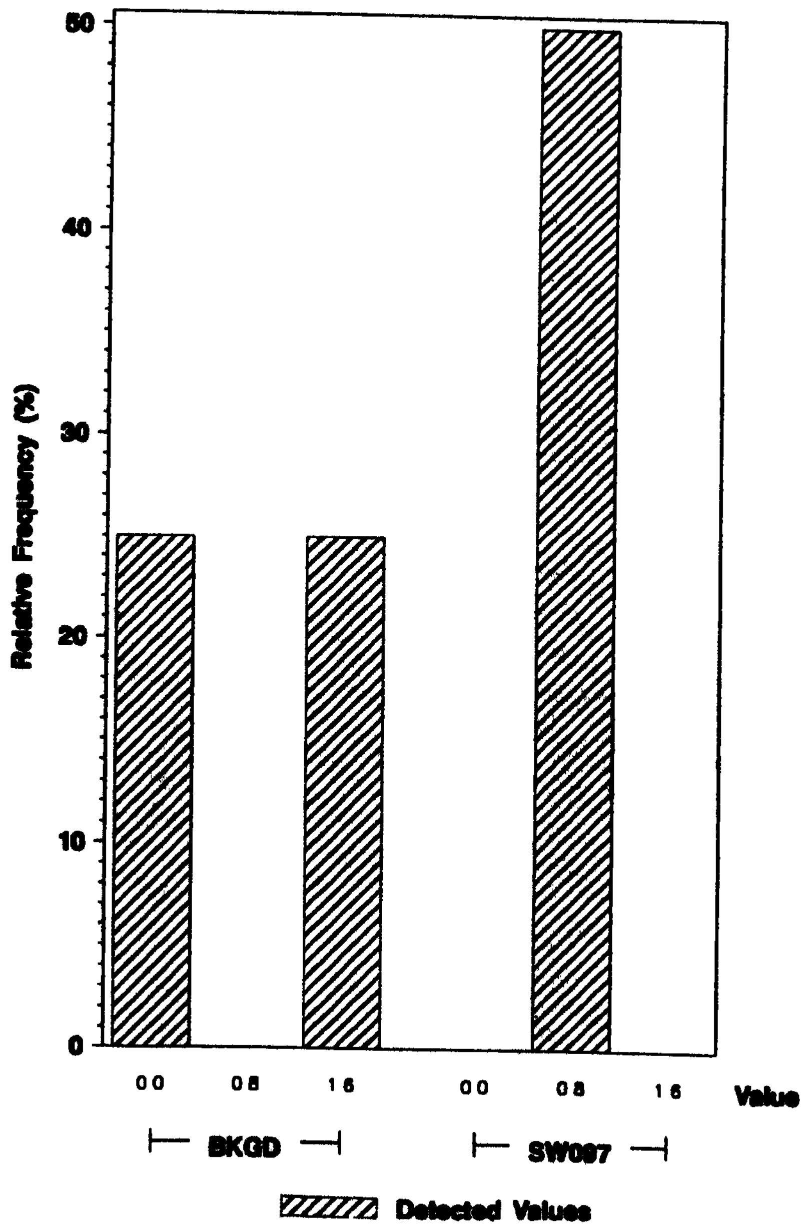
ANALYTE = PLUTONIUM – 239/240



Background vs OU7 Seep Water Frequency Histogram

Total RADIUM-226 (pCI/L) In Seep Water

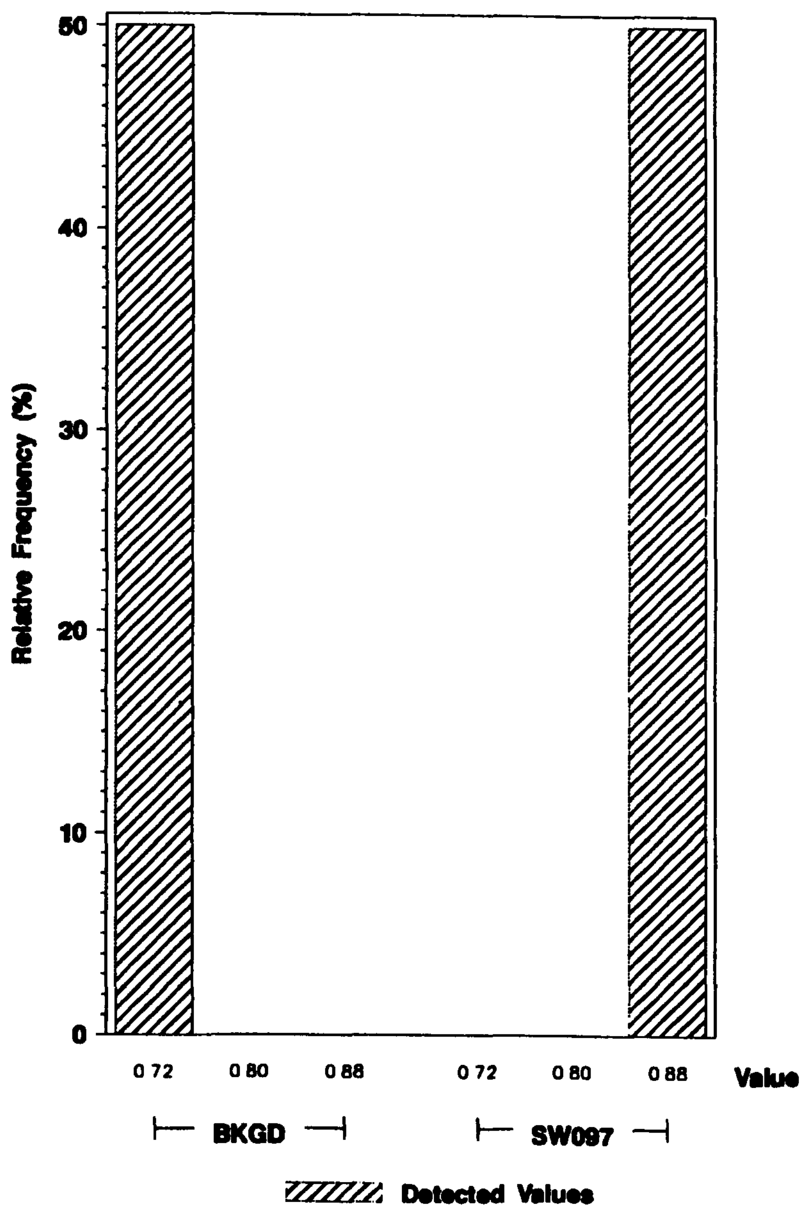
ANALYTE=RADIUM-226



Background vs OU7 Seep Water Frequency Histogram

Total RADIUM – 228 (pCI/L) In Seep Water

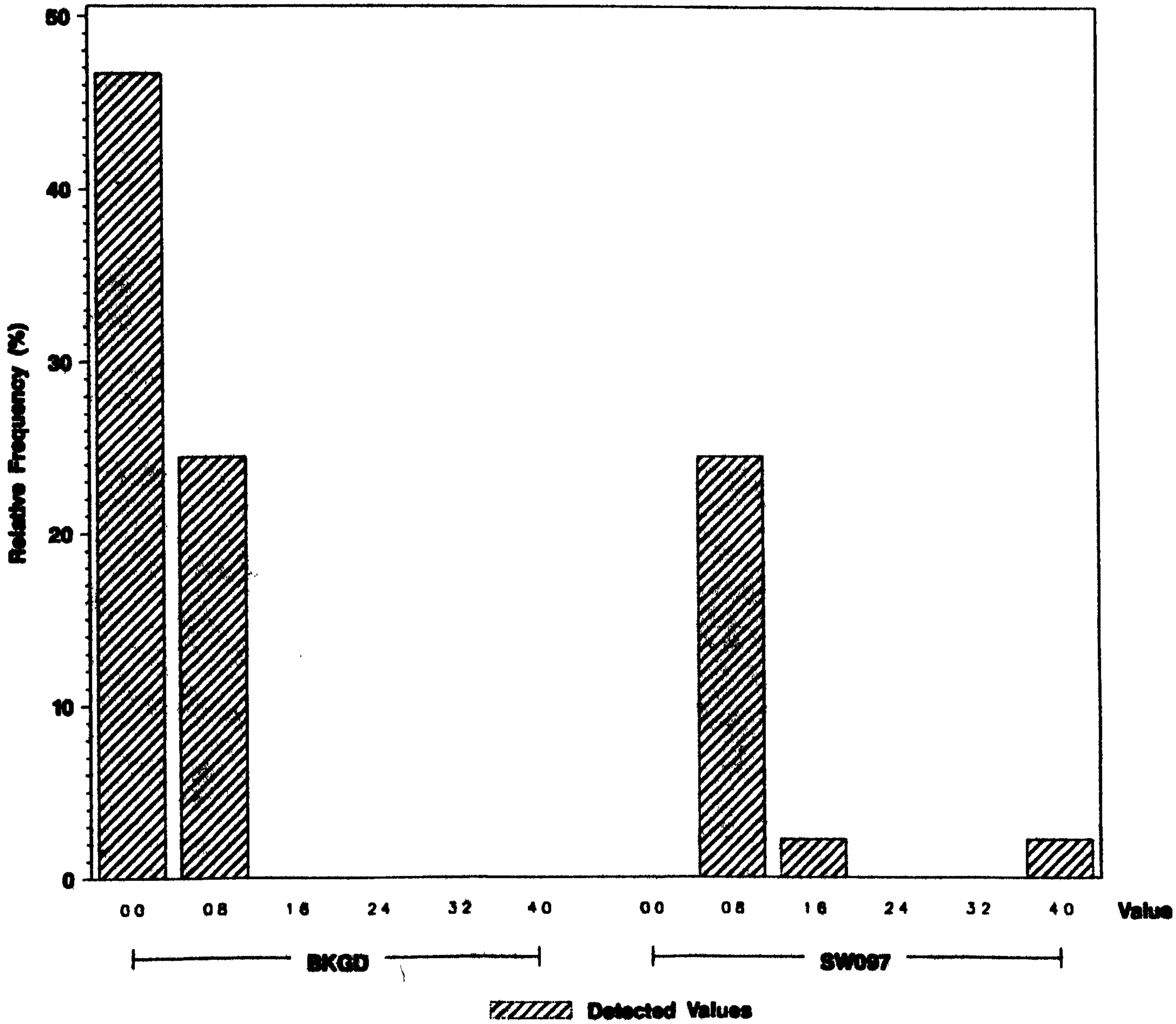
ANALYTE = RADIUM – 228



Background vs OU7 Seep Water Frequency Histogram

Total STRONTIUM – 89,90 (pCi/L) In Seep Water

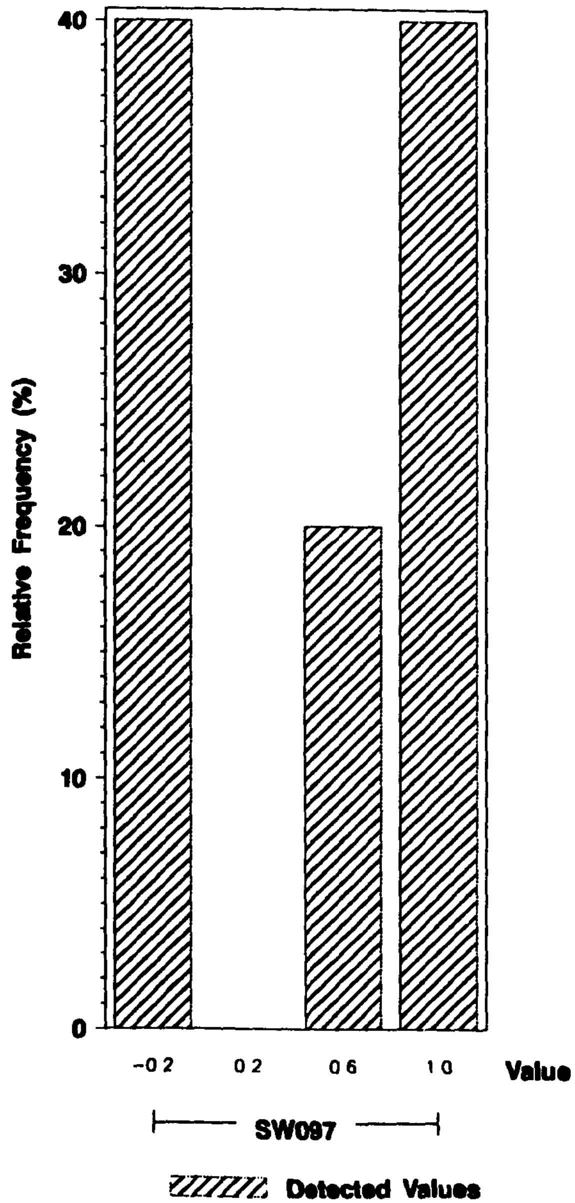
ANALYTE = STRONTIUM – 89,90



Background vs OU7 Seep Water Frequency Histogram

Total STRONTIUM – 89 (pCi/L) in Seep Water

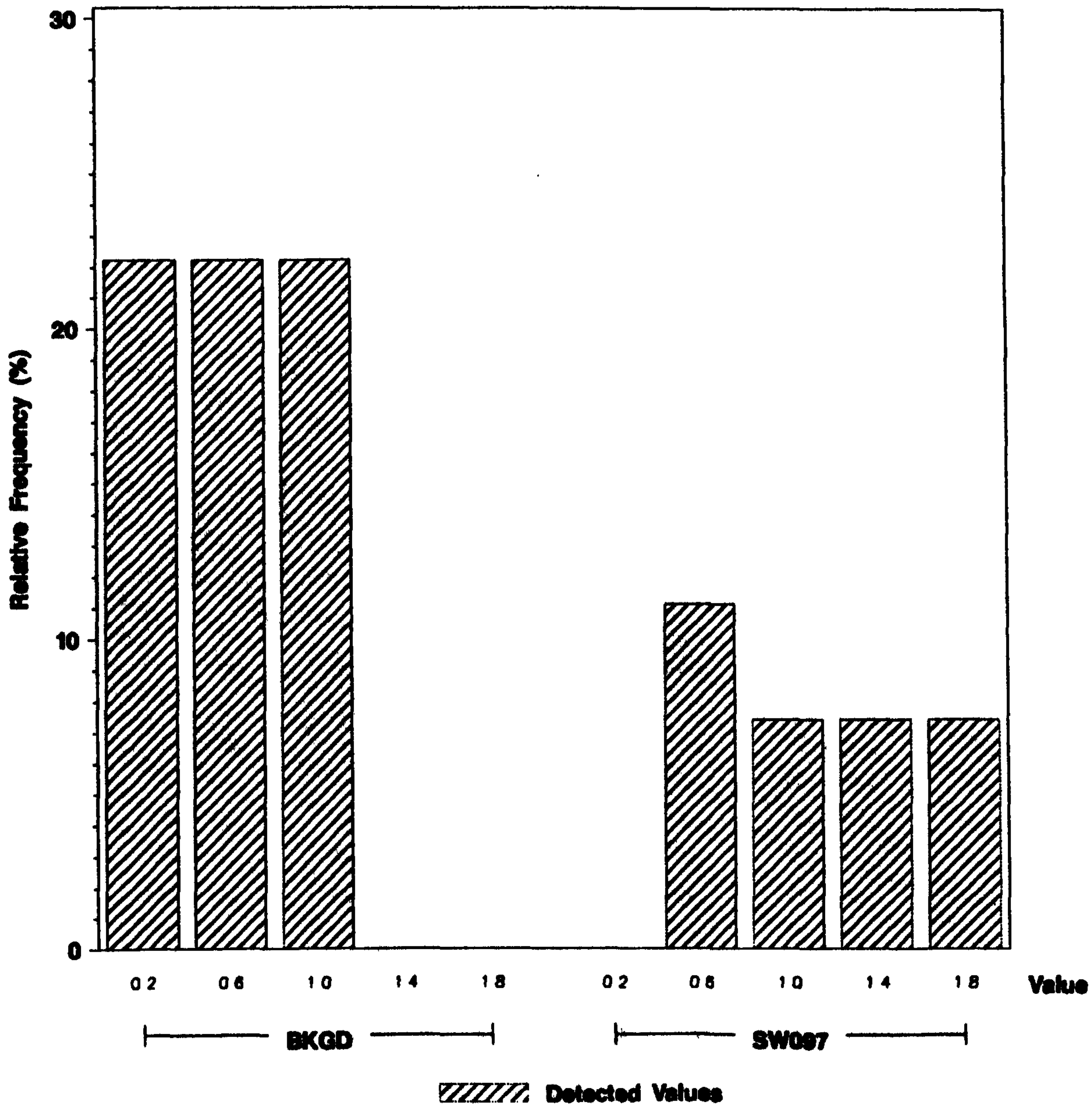
ANALYTE = STRONTIUM – 89



Background vs OU7 Seep Water Frequency Histogram

Total STRONTIUM—89,90 (pCi/L) in Seep Water

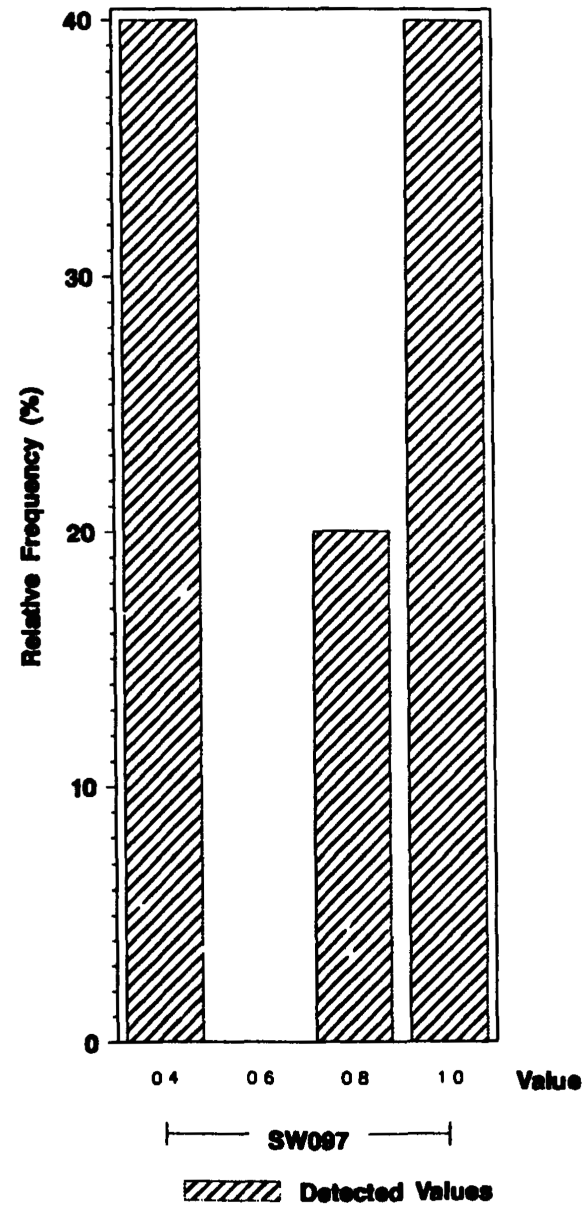
ANALYTE=STRONTIUM—89,90



Background vs OU7 Seep Water Frequency Histogram

Total STRONTIUM-90 (pCI/L) in Seep Water

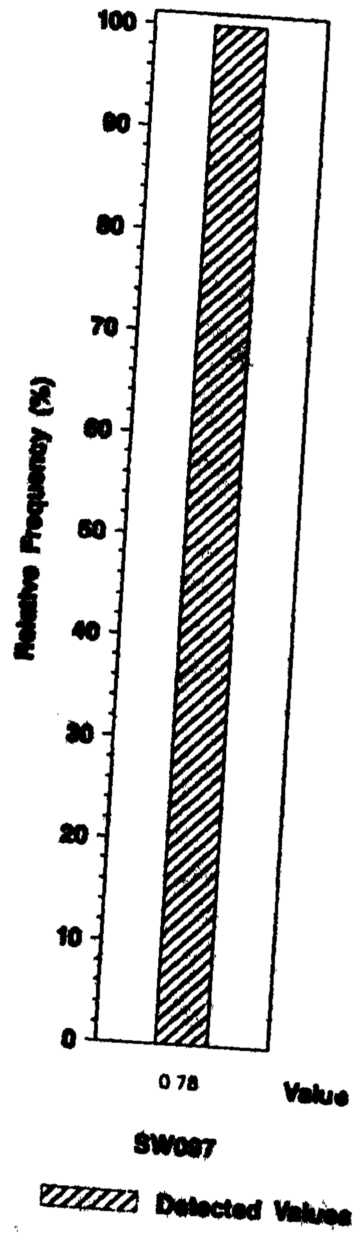
ANALYTE=STRONTIUM-90



Background vs OU7 Seep Water Frequency Histogram

Total TOTAL RADIOCESIUM (pCI/L) In Seep Water

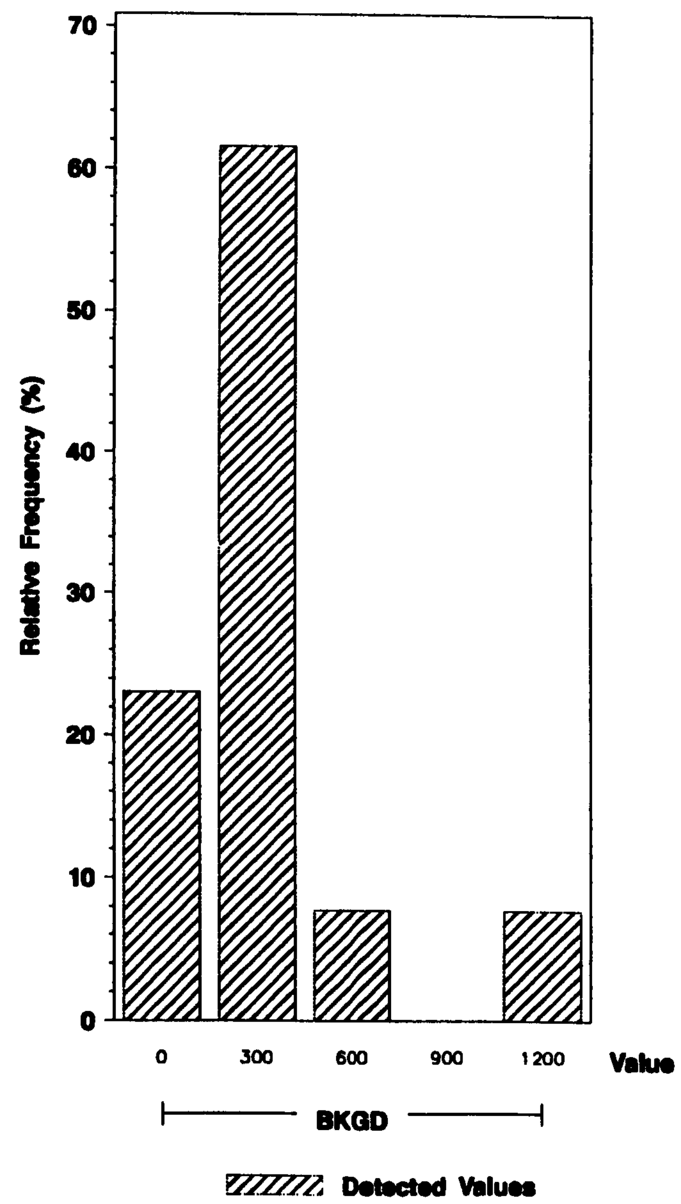
ANALYTE=TOTAL RADIOCESIUM



Background vs OU7 Seep Water Frequency Histogram

Total TRITIUM (pCi/L) in Seep Water

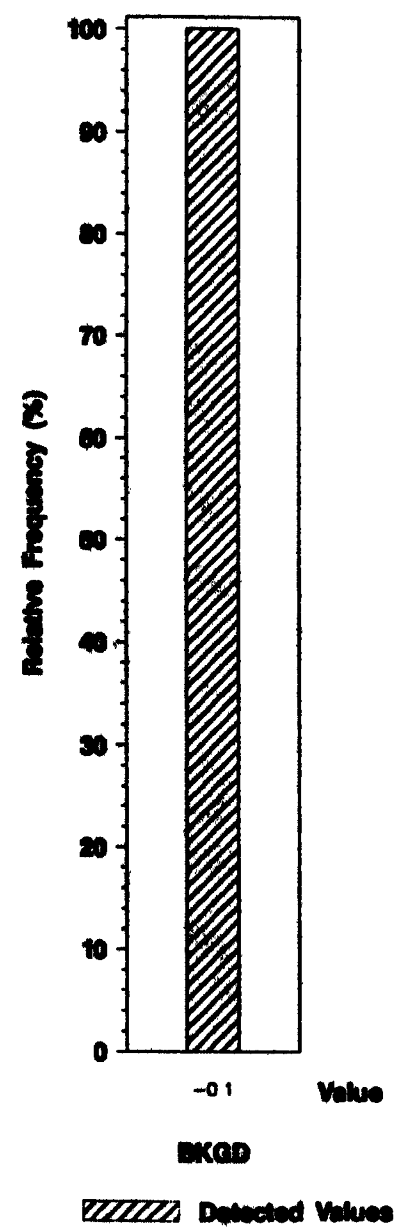
ANALYTE = TRITIUM



Background vs OU7 Seep Water Frequency Histogram

Total URANIUM, TOTAL (pCi/L) In Seep Water

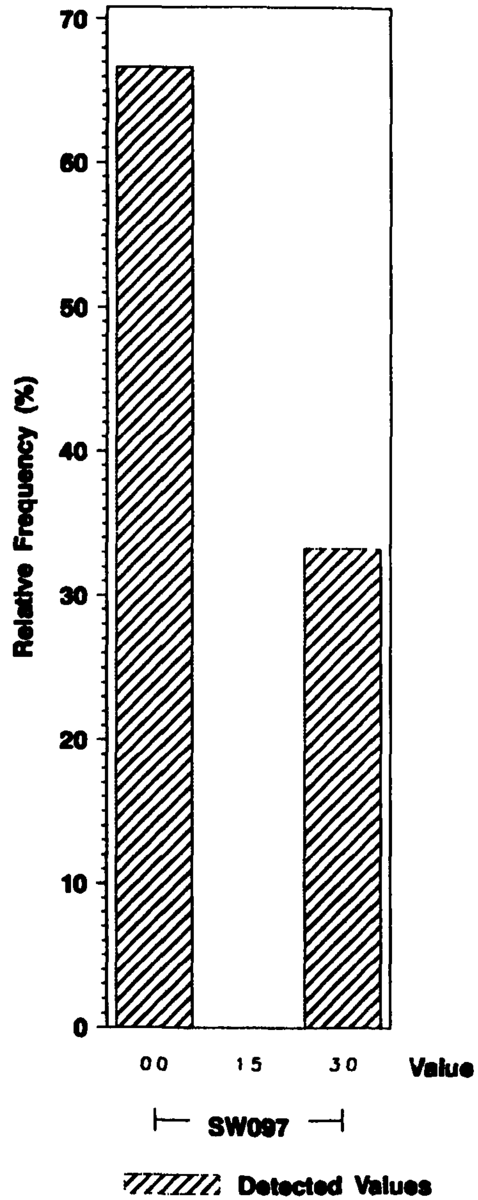
ANALYTE = URANIUM, TOTAL



Background vs OU7 Seep Water Frequency Histogram

Total URANIUM−234 (pCi/L) In Seep Water

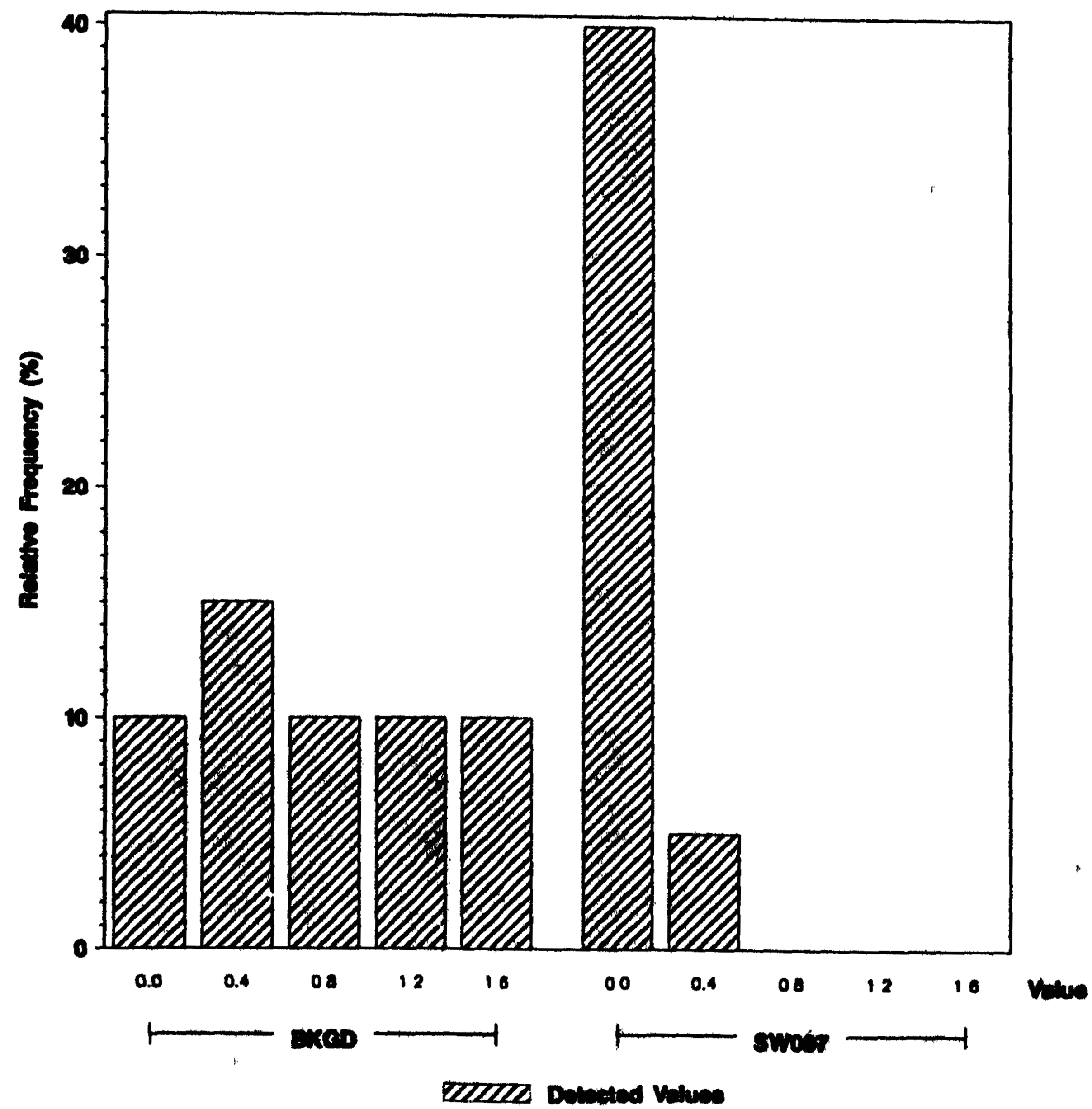
ANALYTE=URANIUM−234



Background vs OU7 Seep Water Frequency Histogram

Total URANIUM – 233, – 234 (pCI/L) In Seep Water

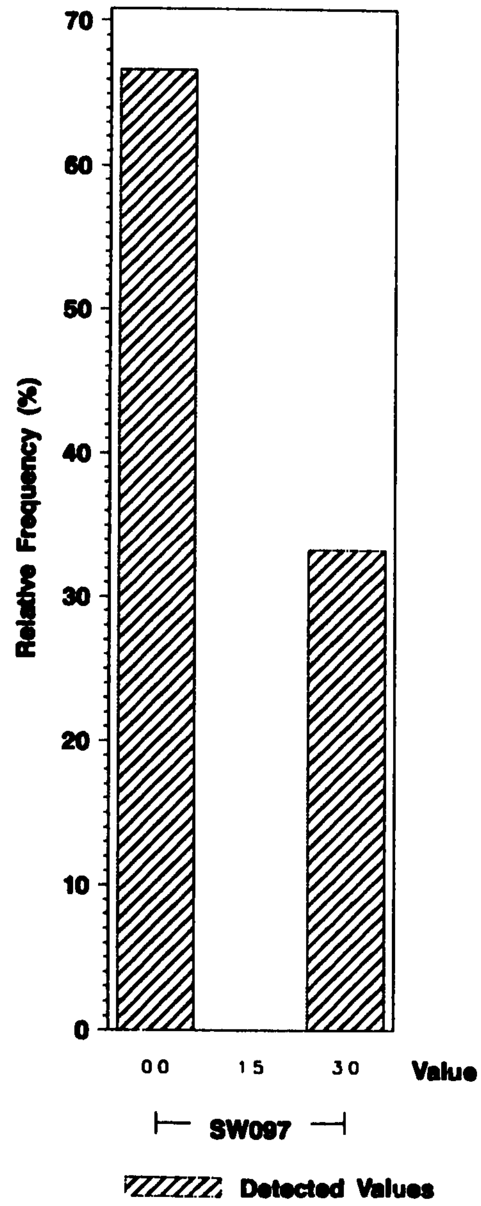
ANALYTE = URANIUM – 233, – 234



Background vs OU7 Seep Water Frequency Histogram

Total URANIUM-234 (pCi/L) in Seep Water

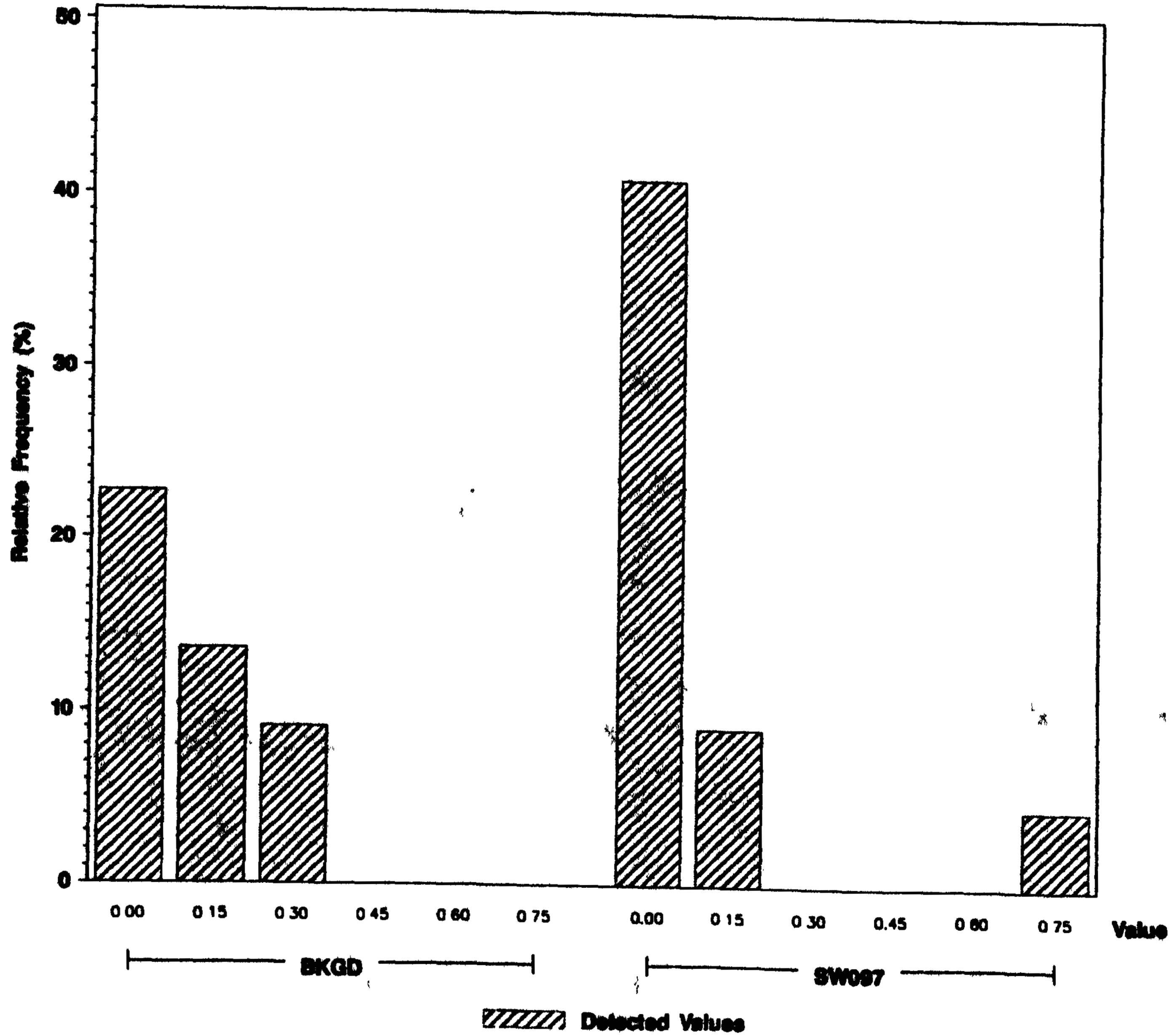
ANALYTE=URANIUM-234



Background vs OU7 Seep Water Frequency Histogram

Total URANIUM – 235 (pCI/L) In Seep Water

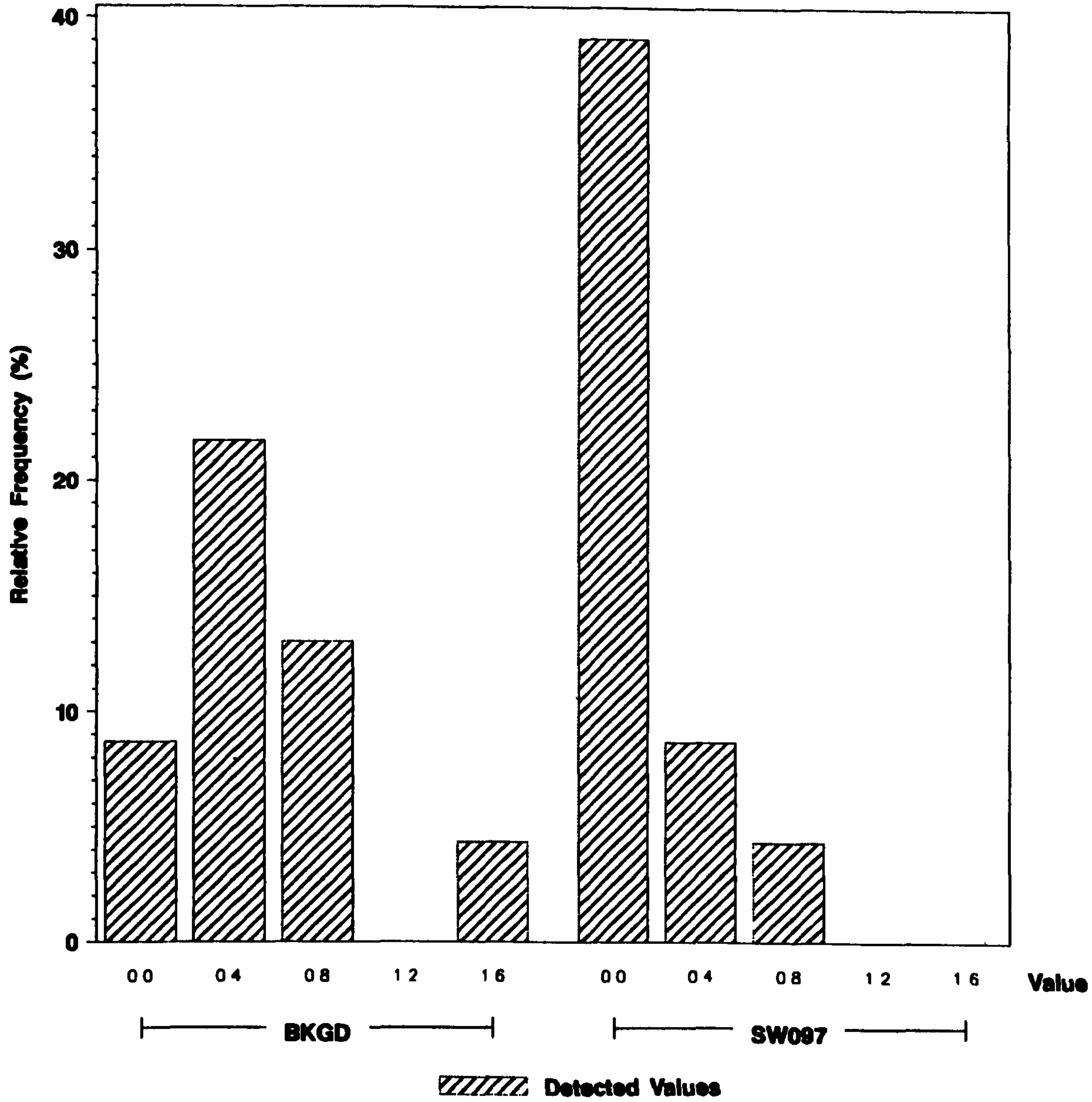
ANALYTE = URANIUM – 235



Background vs OU7 Seep Water Frequency Histogram

Total URANIUM-238 (pCi/L) in Seep Water

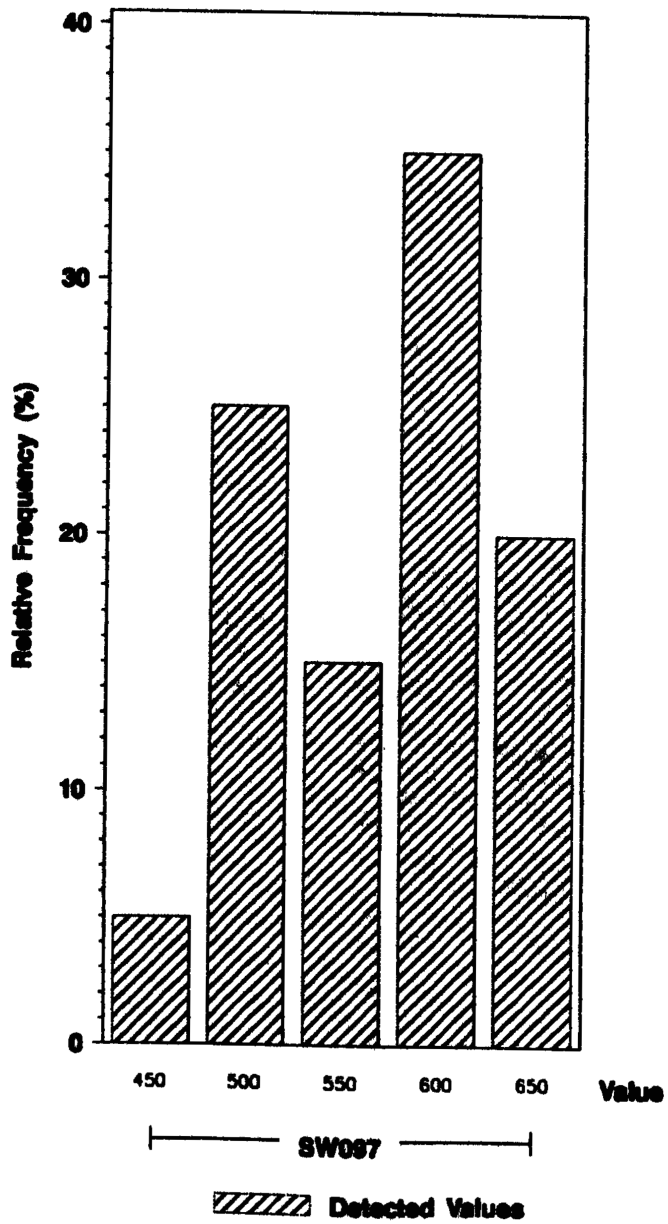
ANALYTE=URANIUM-238



Background vs OU7 Seep Water Frequency Histogram

Dissolved BARIUM (ug/L) in Seep Water

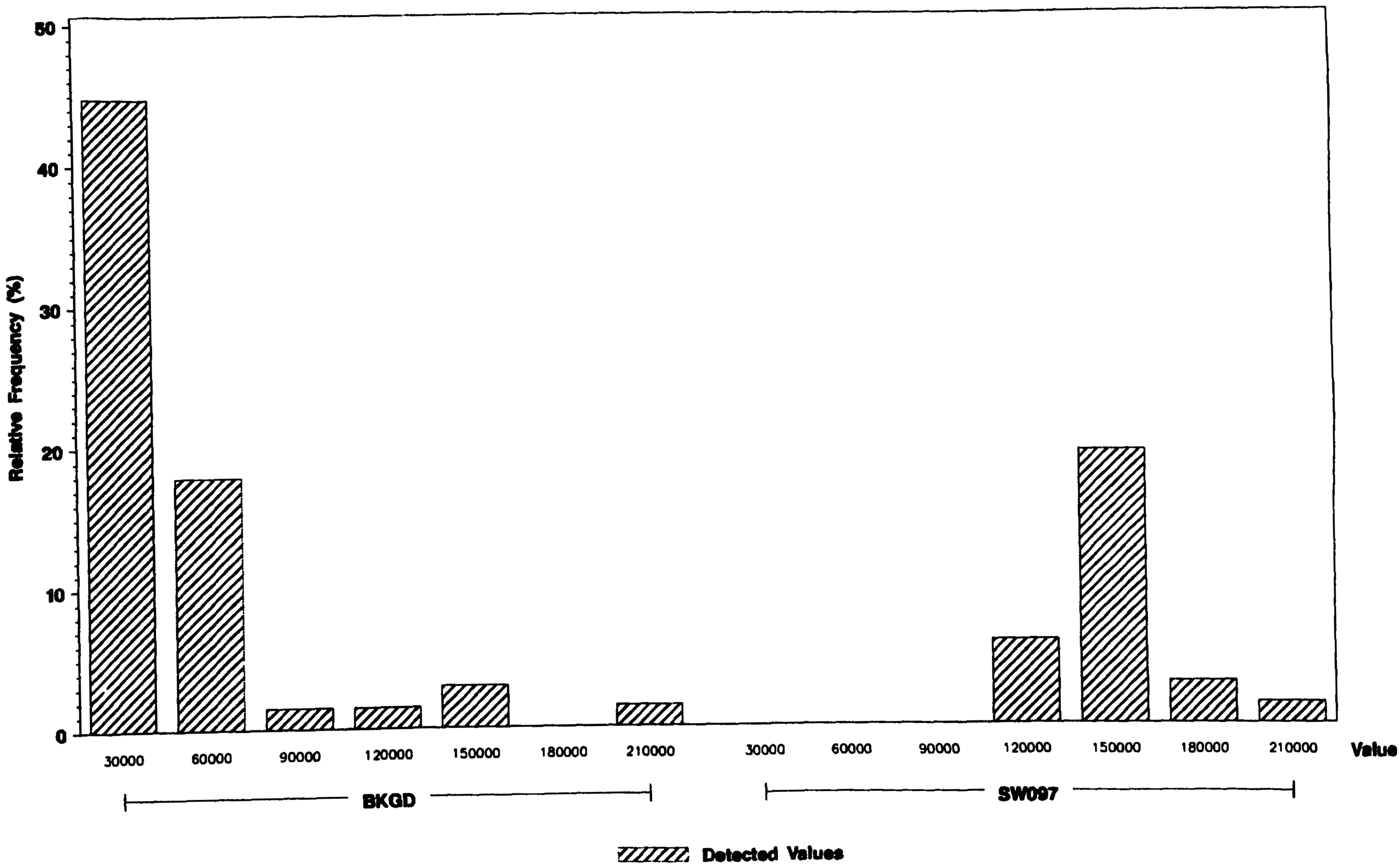
ANALYTE=BARIUM



Background vs OU7 Seep Water Frequency Histogram

Dissolved CALCIUM (ug/L) In Seep Water

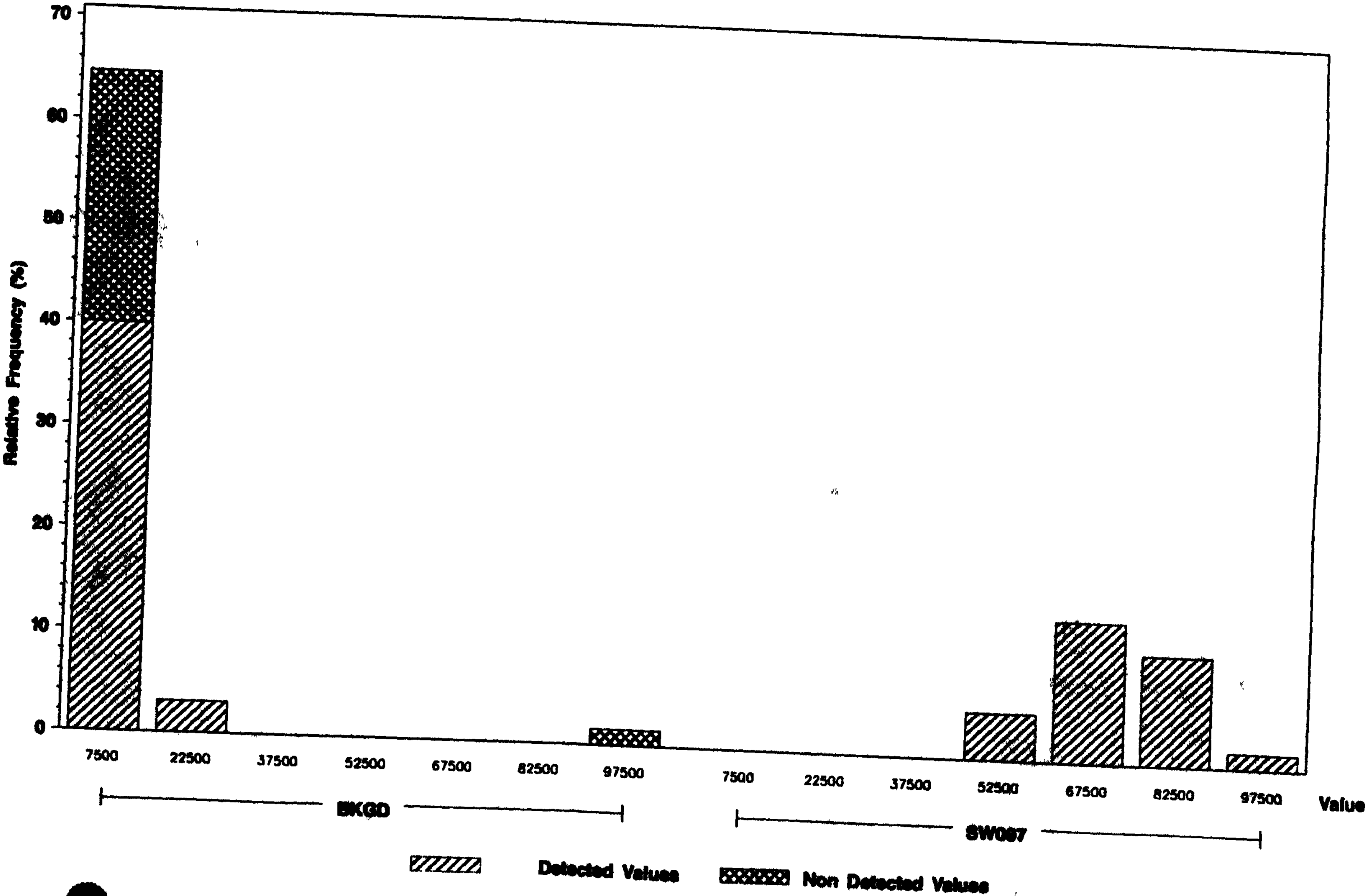
ANALYTE=CALCIUM



Background vs OU7 Seep Water Frequency Histogram

Dissolved IRON (ug/L) in Seep Water

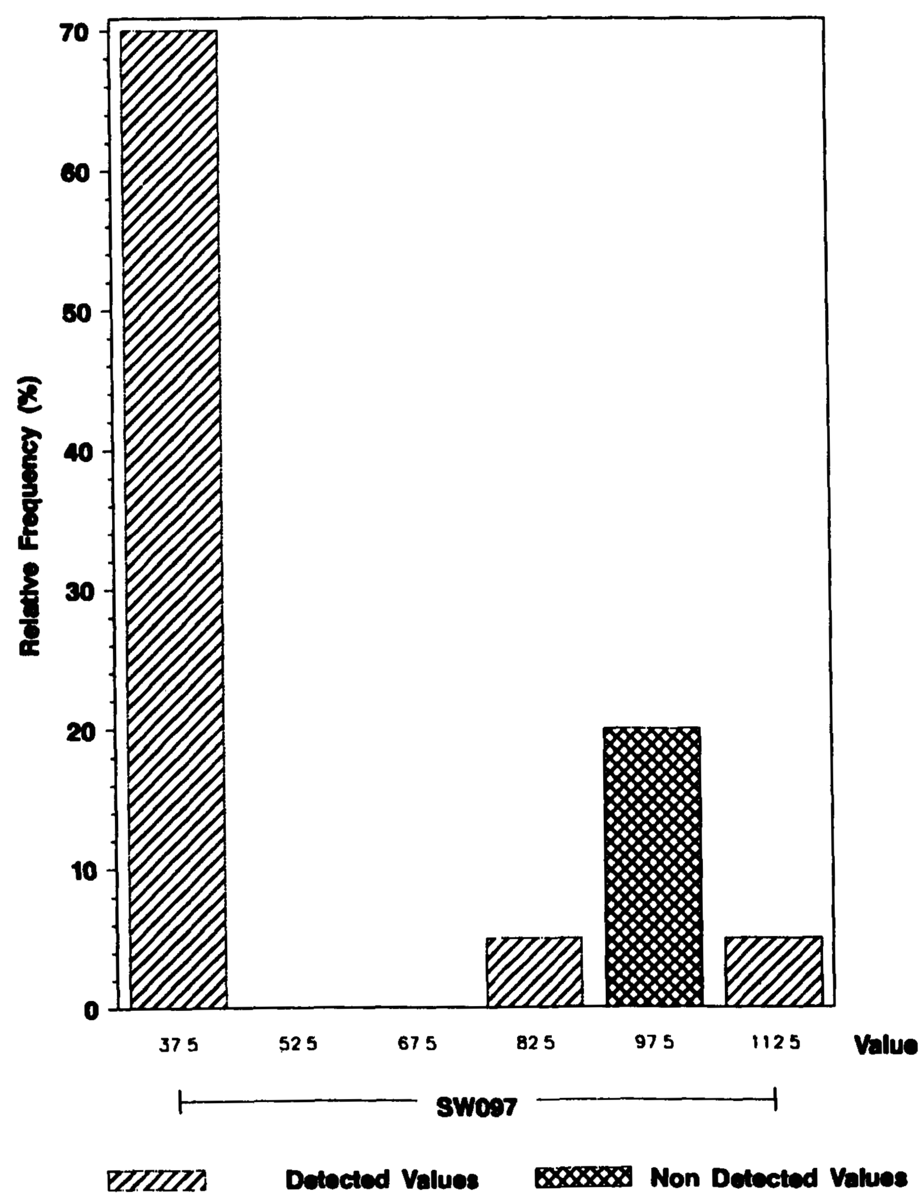
ANALYTE=IRON



Background vs OU7 Seep Water Frequency Histogram

Dissolved LITHIUM (ug/L) in Seep Water

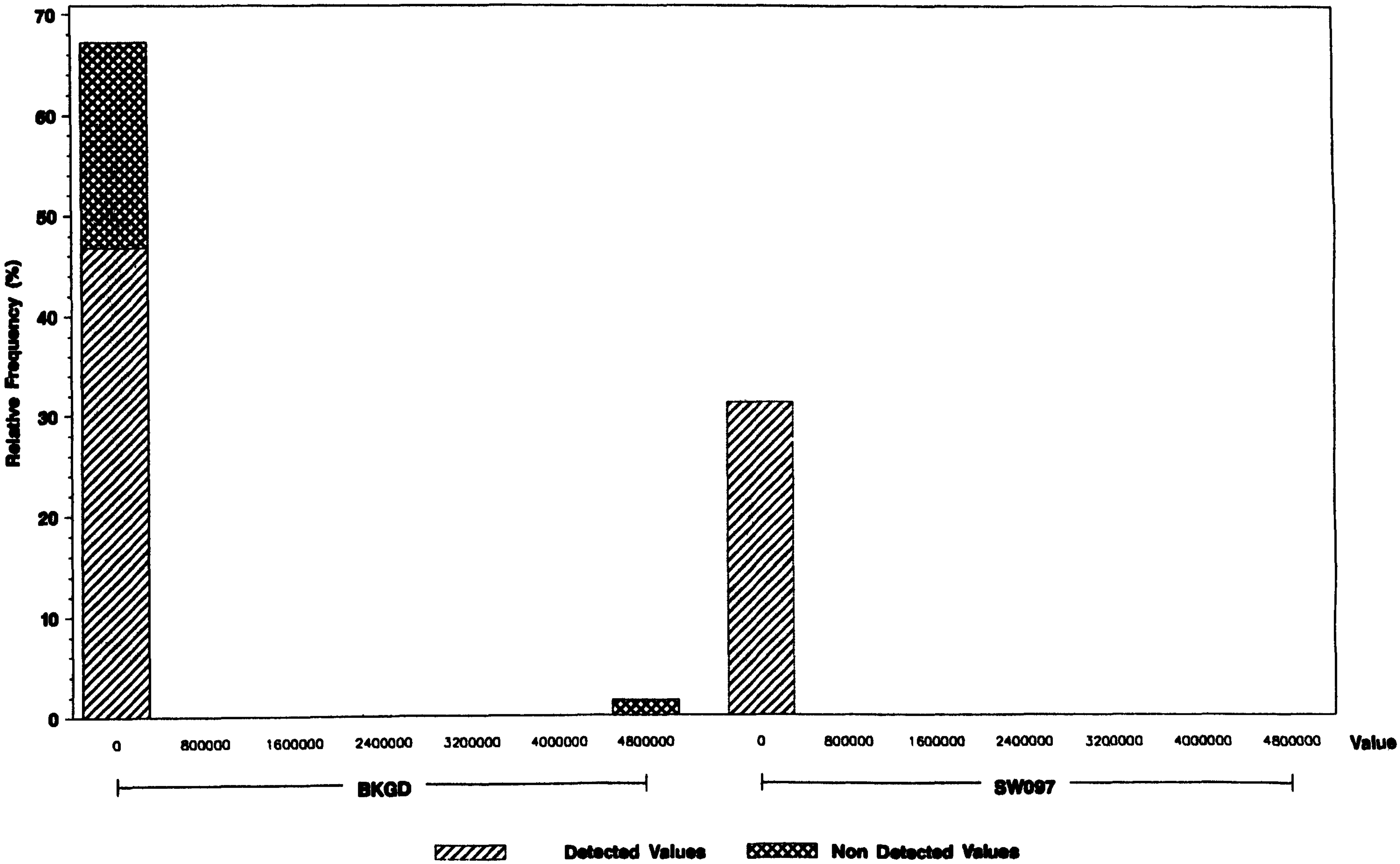
ANALYTE=LITHIUM



Background vs OU7 Seep Water Frequency Histogram

Dissolved MAGNESIUM (ug/L) in Seep Water

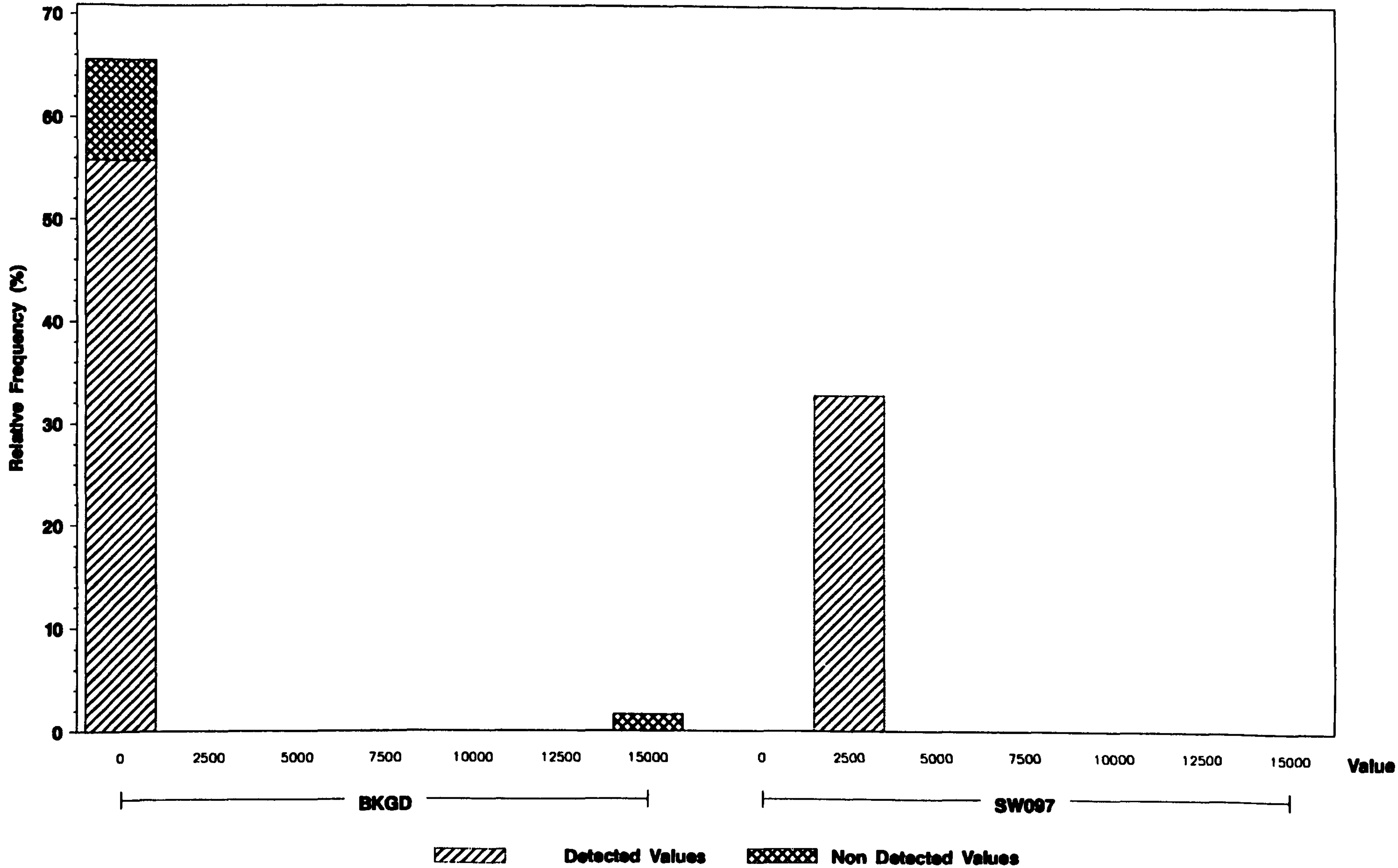
ANALYTE=MAGNESIUM



Background vs OU7 Seep Water Frequency Histogram

Dissolved MANGANESE (ug/L) In Seep Water

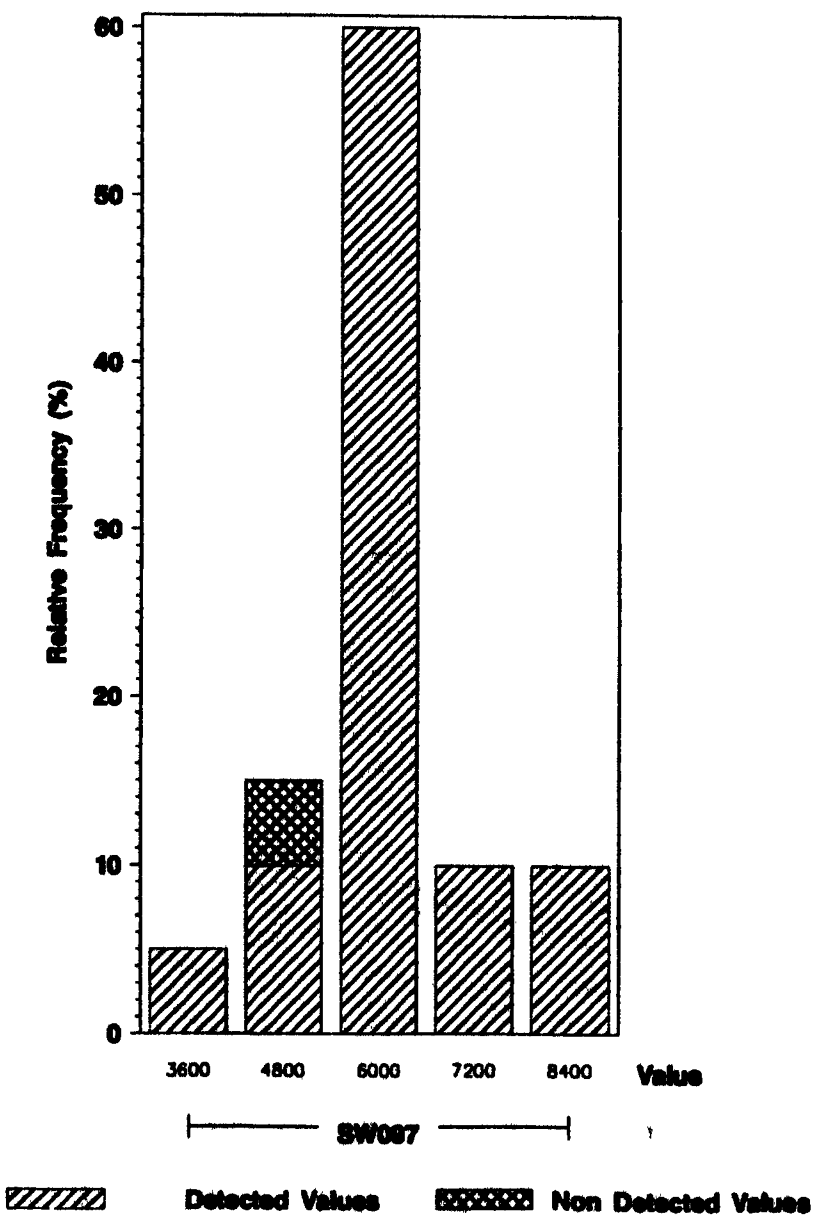
ANALYTE=MANGANESE



Background vs OU7 Seep Water Frequency Histogram

Dissolved POTASSIUM (ug/L) in Seep Water

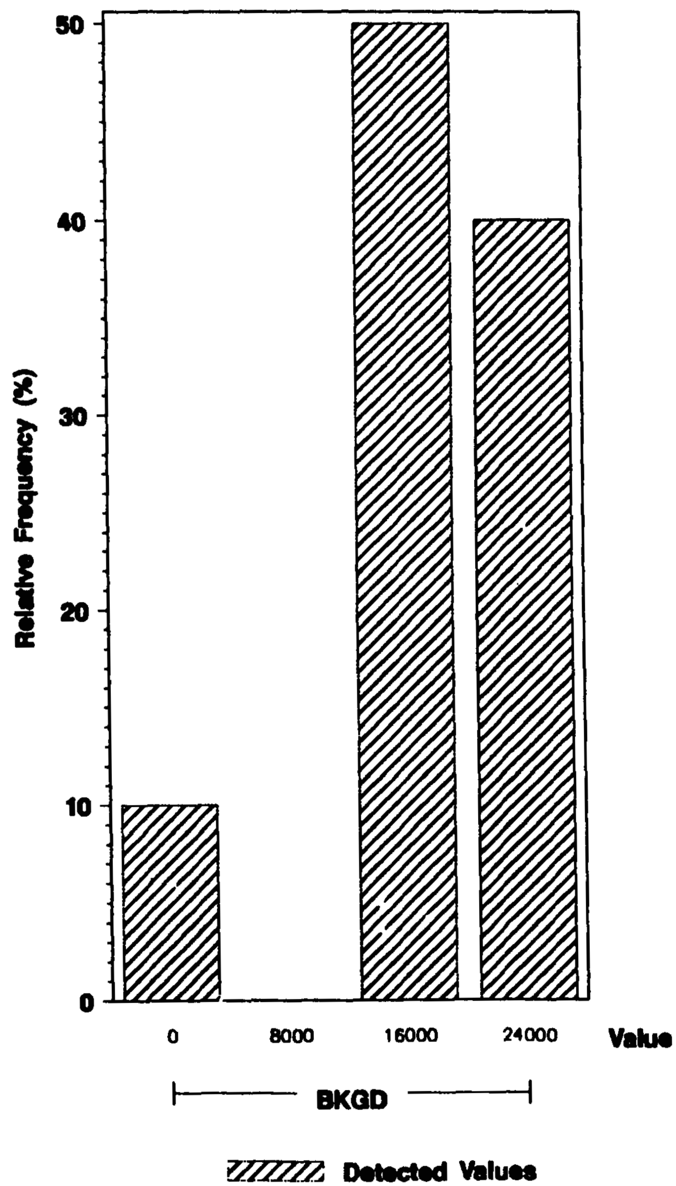
ANALYTE = POTASSIUM



Background vs OU7 Seep Water Frequency Histogram

Dissolved SILICA (ug/L) in Seep Water

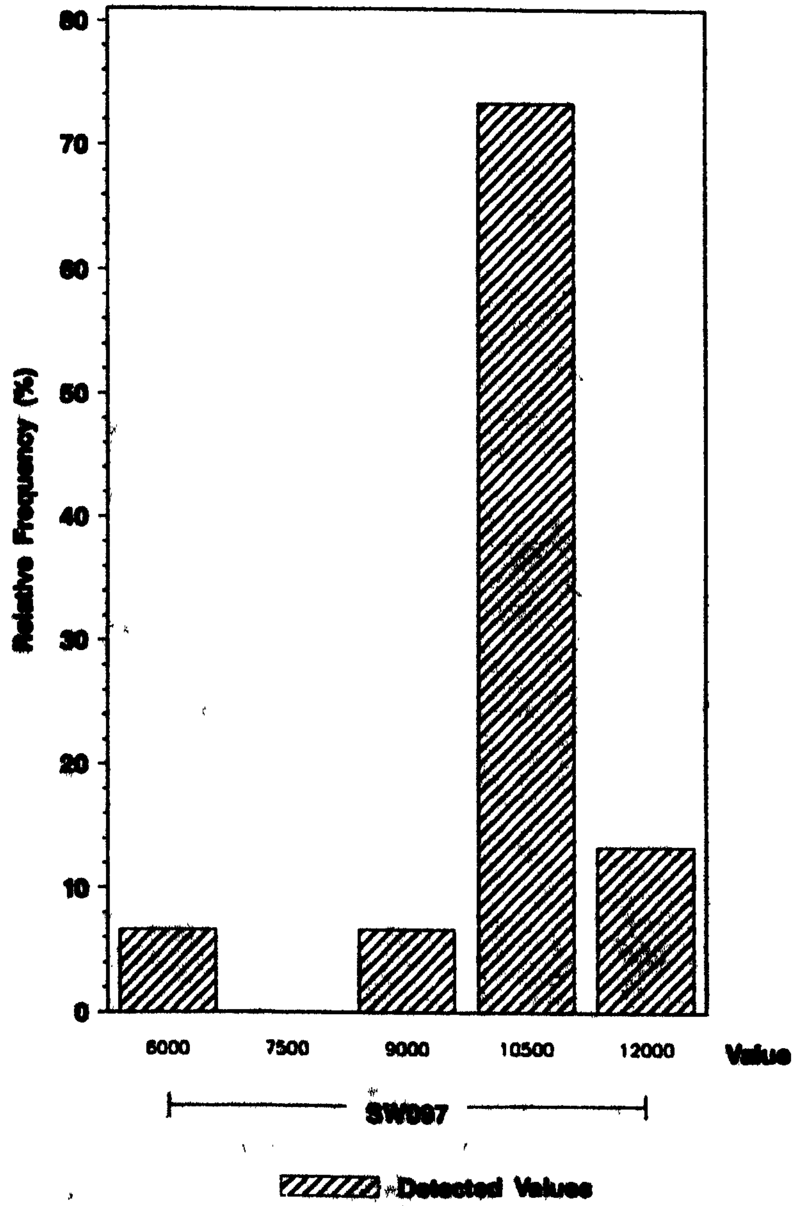
ANALYTE=SILICA



Background vs OU7 Seep Water Frequency Histogram

Dissolved SILICON (ug/L) In Seep Water

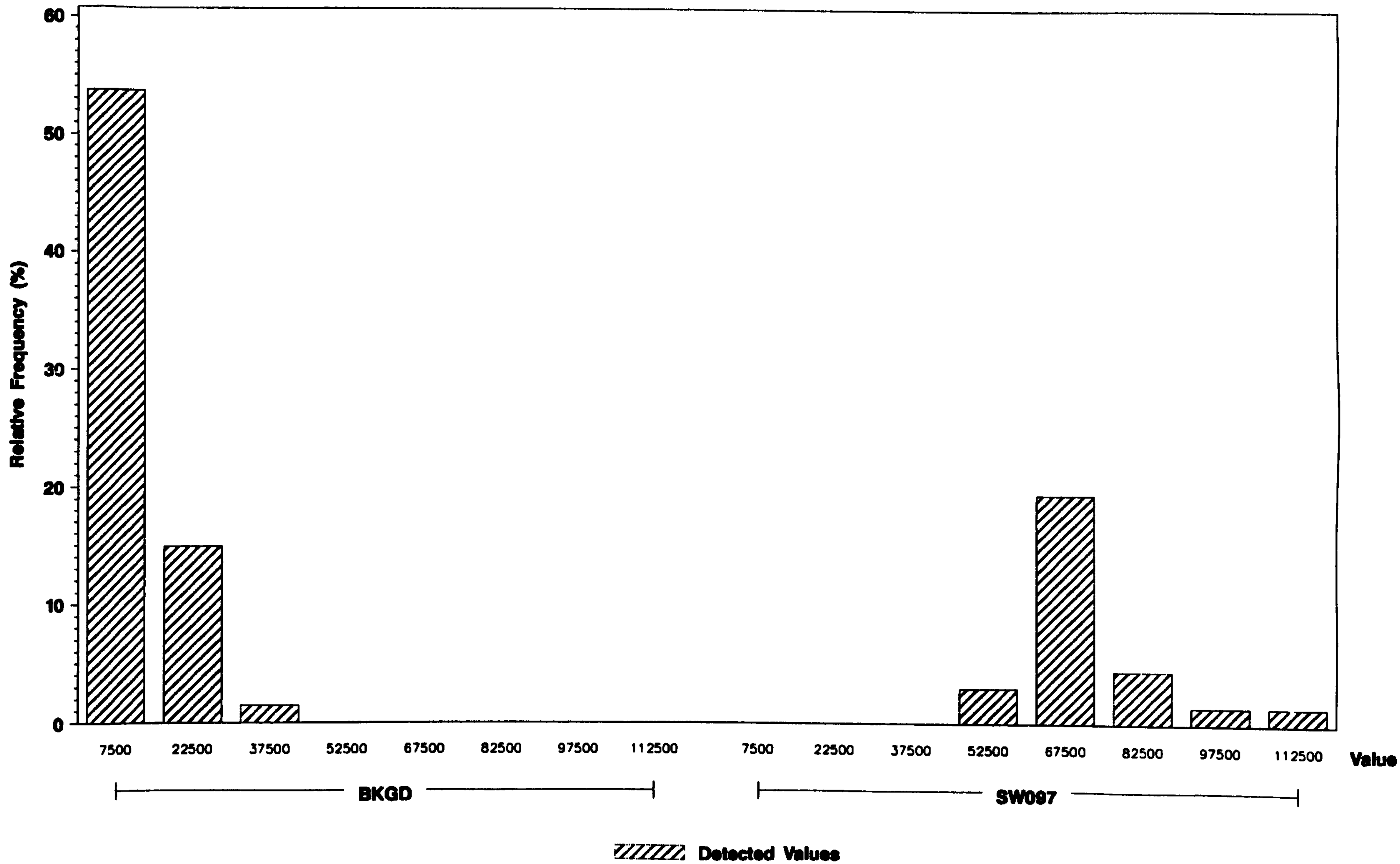
ANALYTE=SILICON



Background vs OU7 Seep Water Frequency Histogram

Dissolved SODIUM (ug/L) in Seep Water

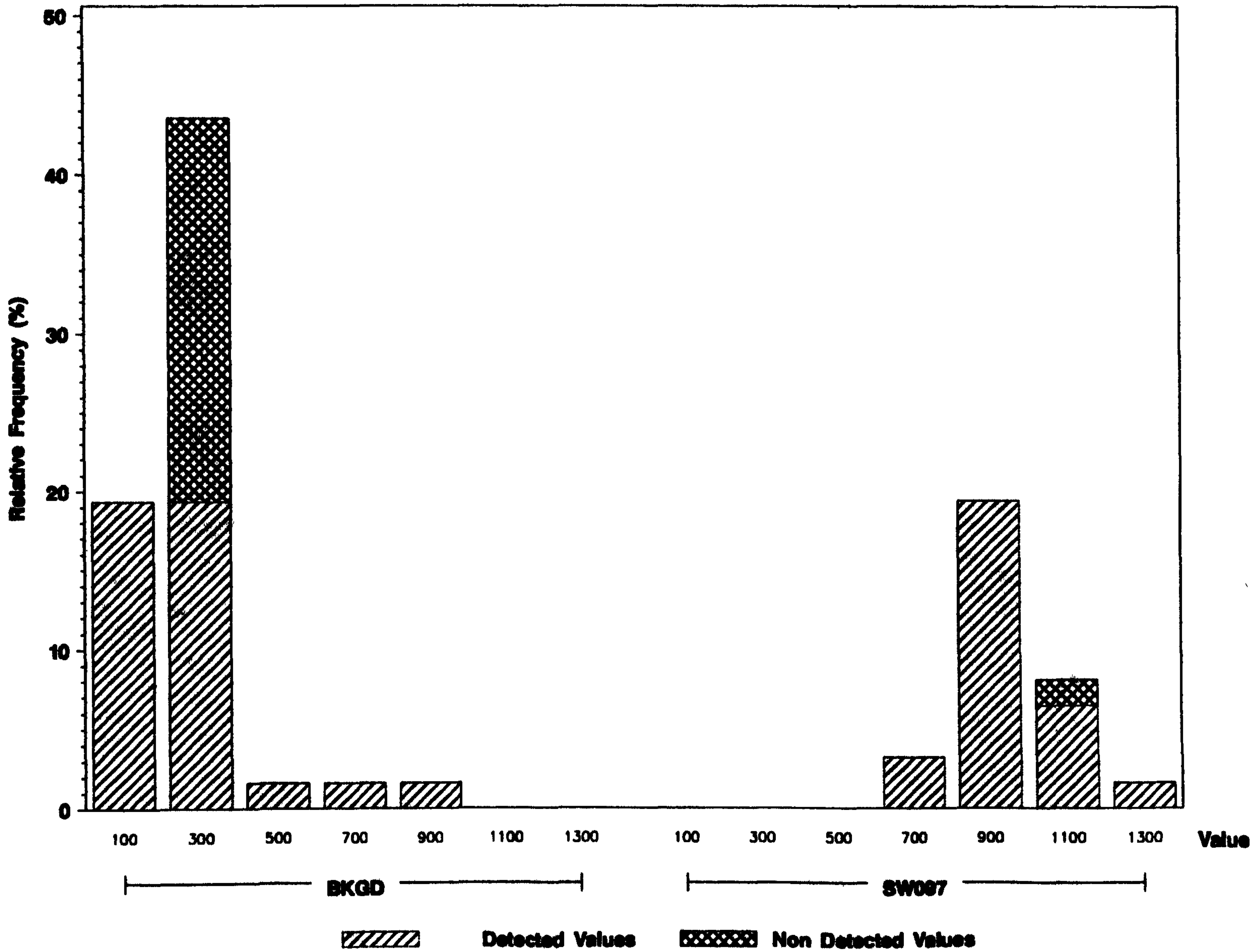
ANALYTE=SODIUM



Background vs OU7 Seep Water Frequency Histogram

Dissolved STRONTIUM (ug/L) in Seep Water

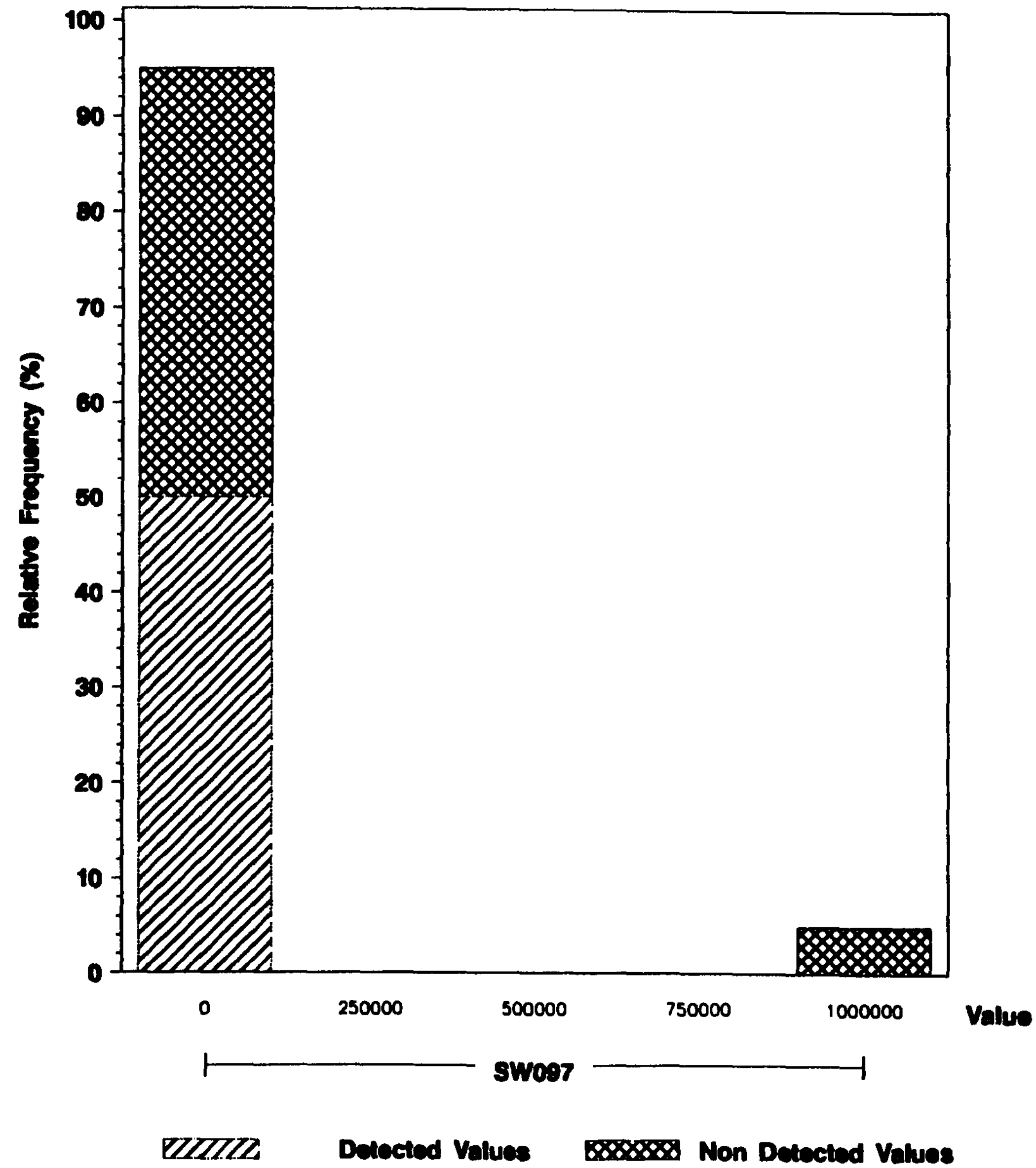
ANALYTE=STRONTIUM



Background vs OU7 Seep Water Frequency Histogram

Dissolved TIN (ug/L) in Seep Water

ANALYTE=TIN



Leachate

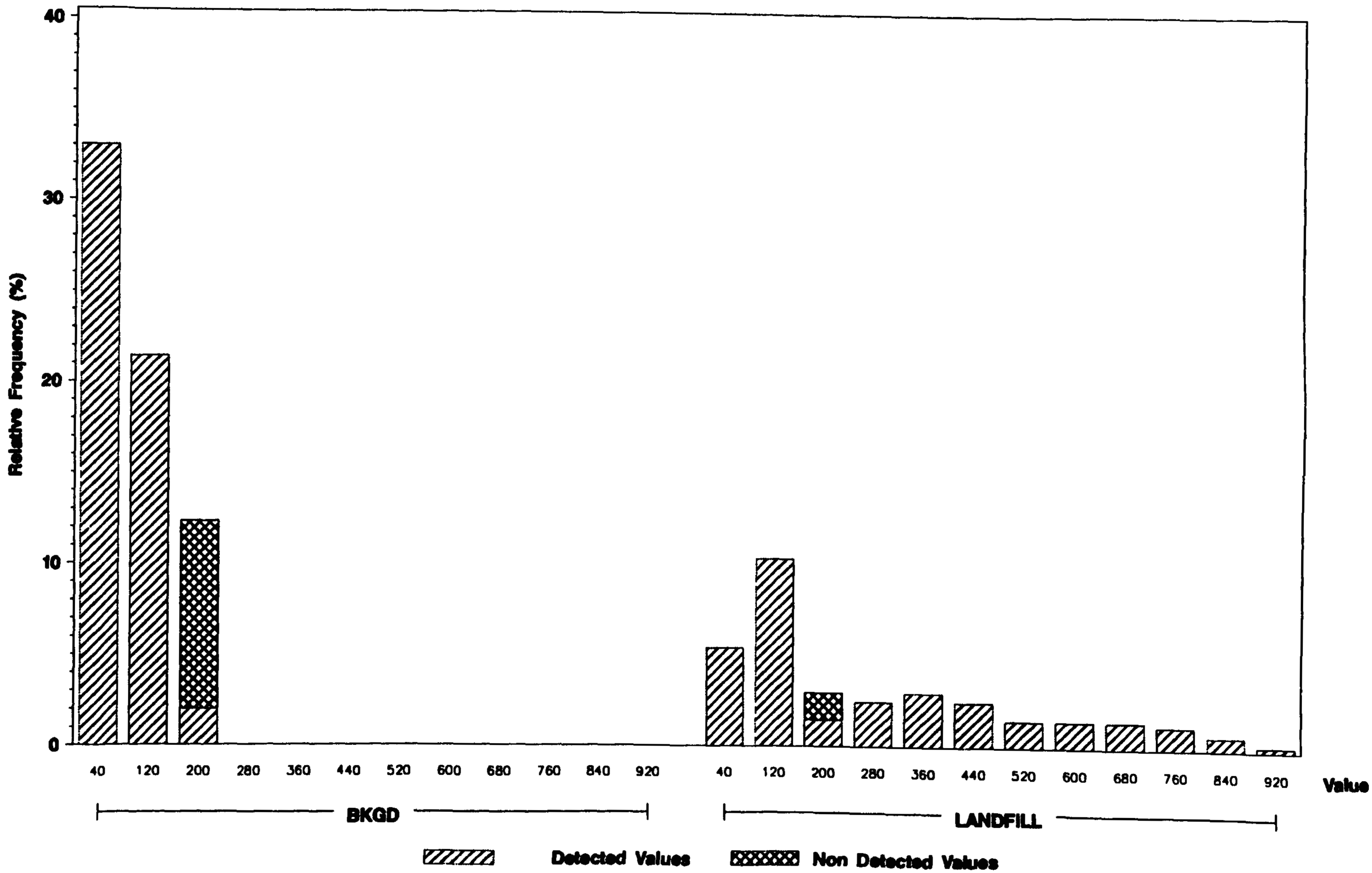
(Dissolved)

Background vs. OU 7 (Landfill) UHSU

Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved BARIUM (ug/L) in Groundwater

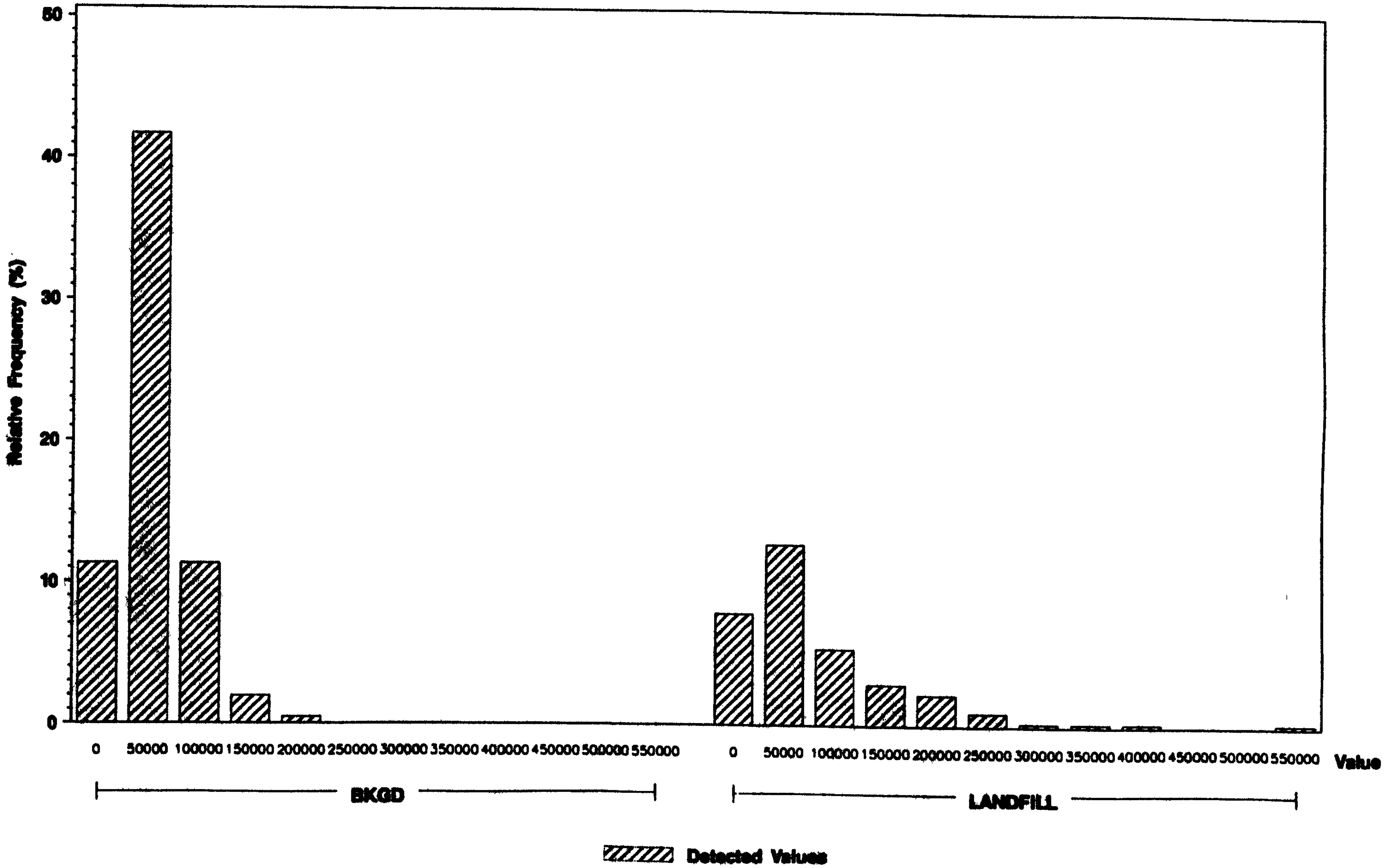
ANALYTE=BARIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved CALCIUM (ug/L) in Groundwater

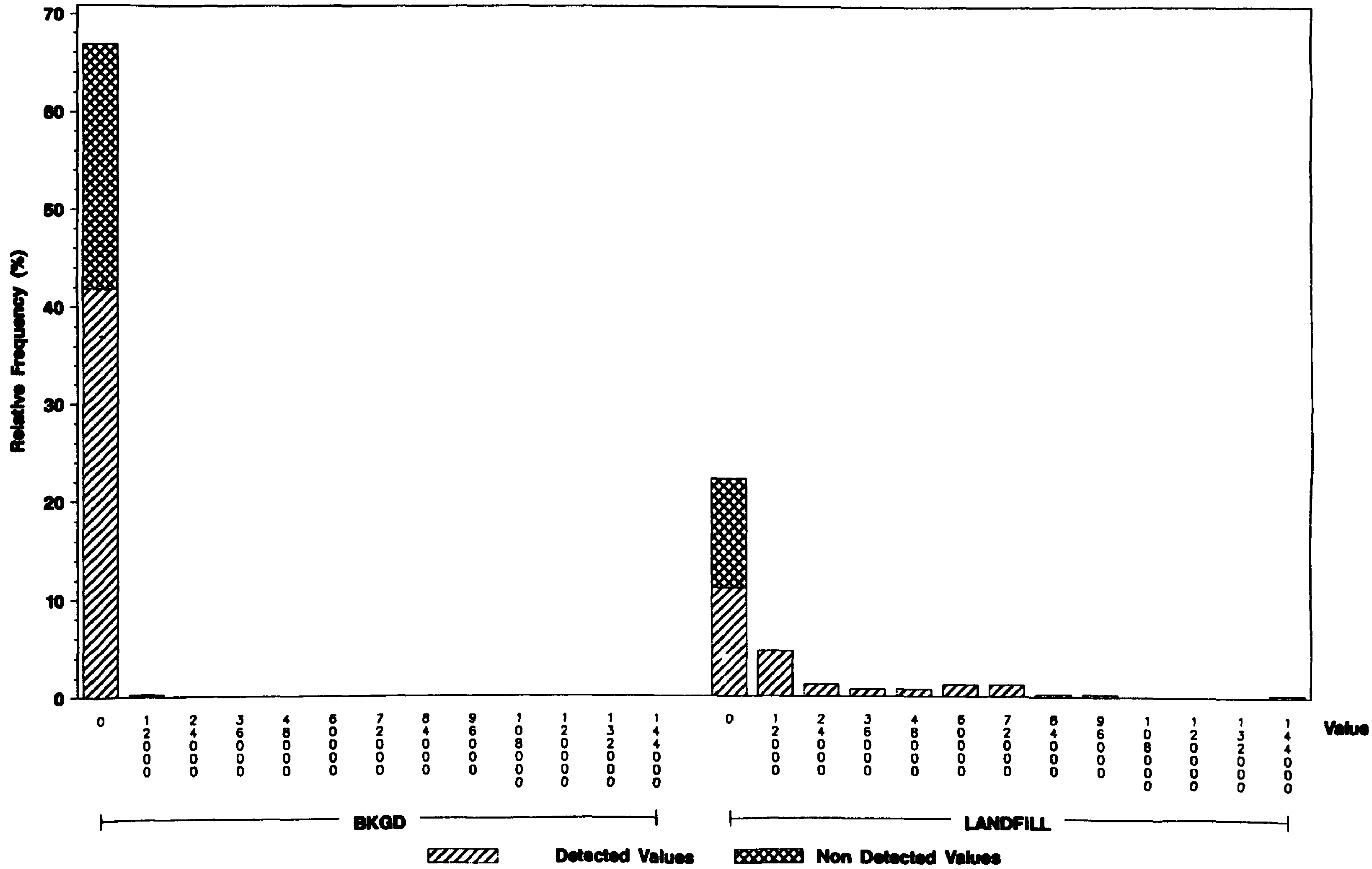
ANALYTE=CALCIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved IRON (ug/L) in Groundwater

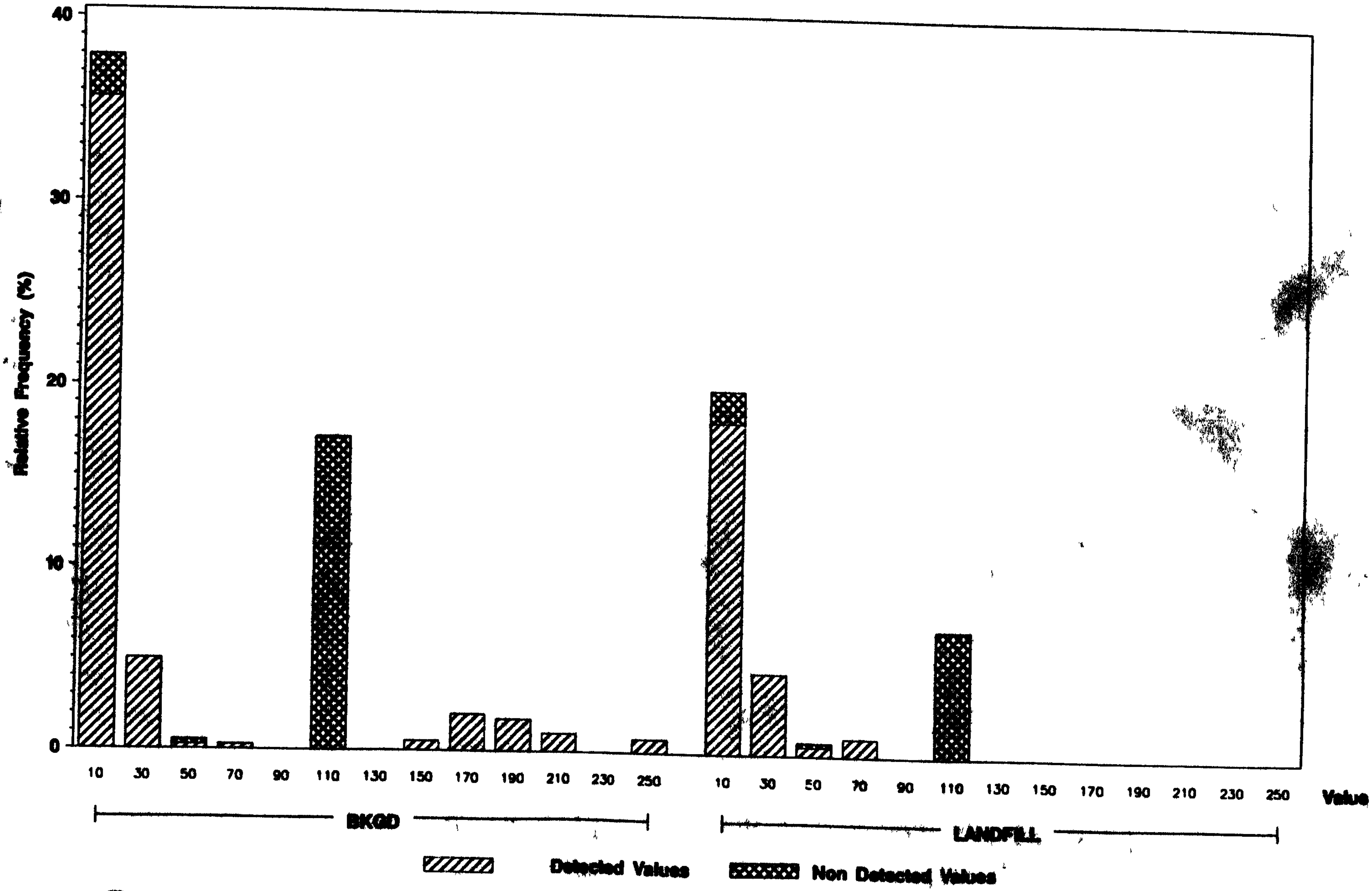
ANALYTE=IRON



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved LITHIUM (ug/L) in Groundwater

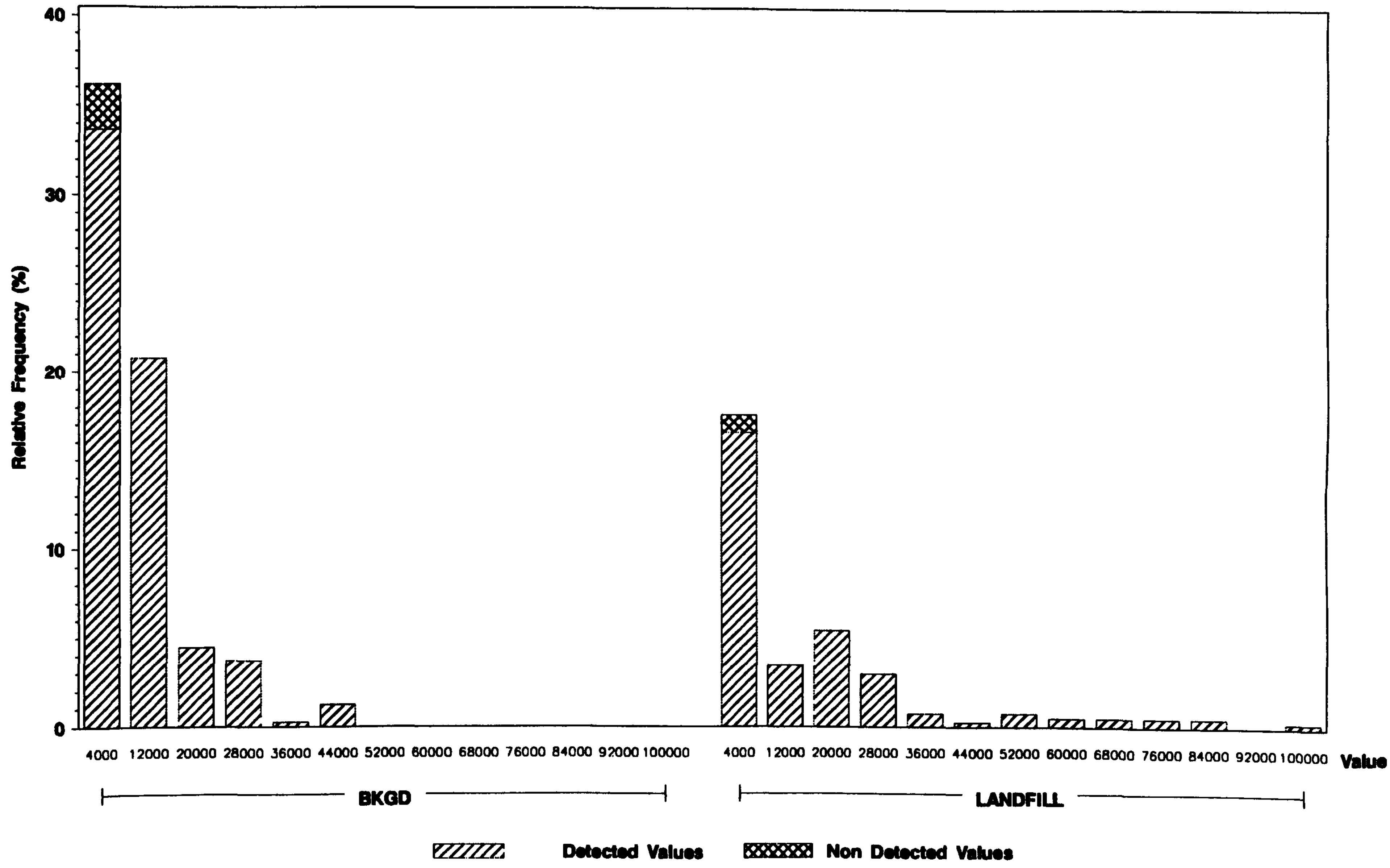
ANALYTE=LITHIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved MAGNESIUM (ug/L) in Groundwater

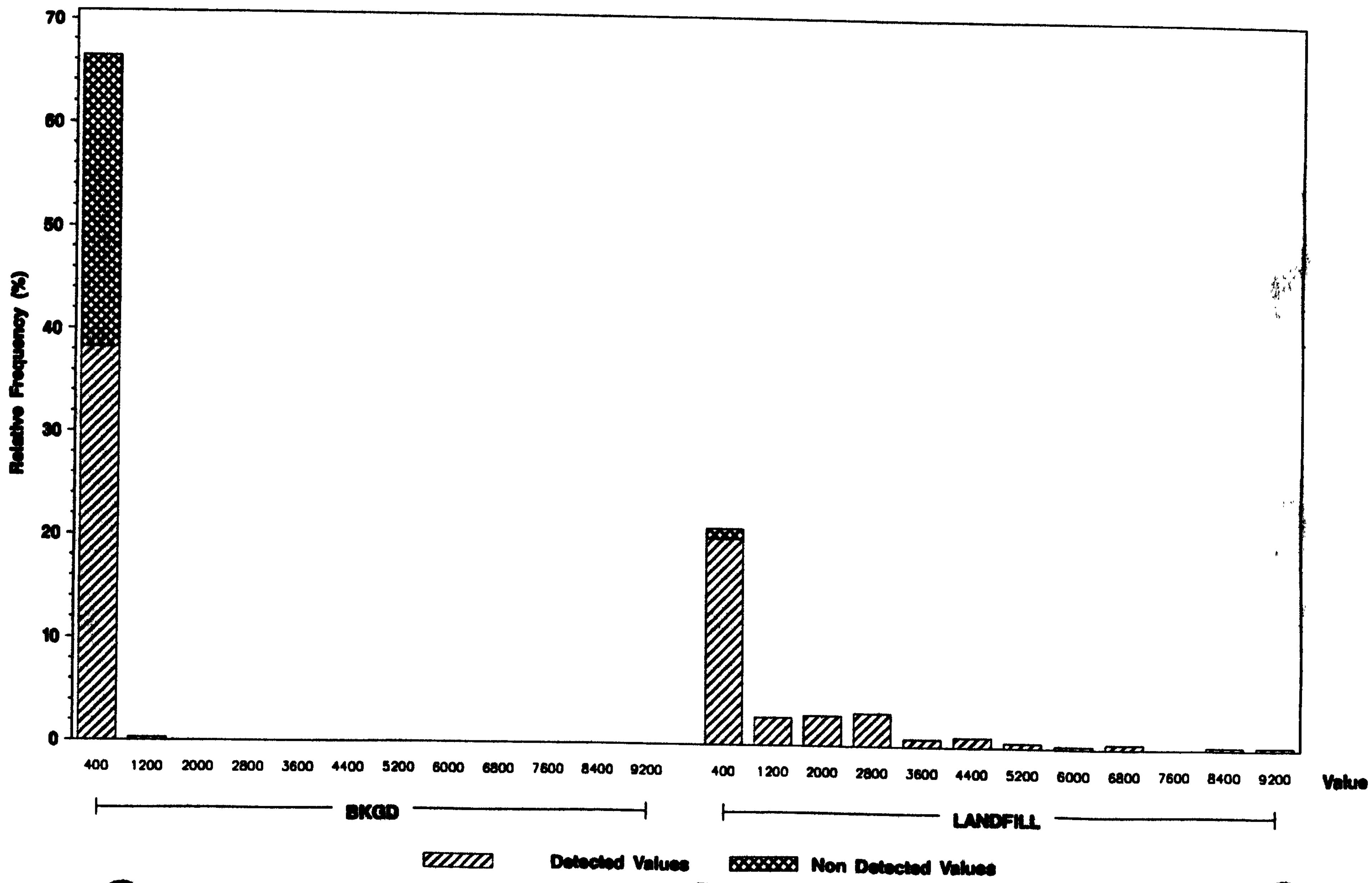
ANALYTE=MAGNESIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved MANGANESE (ug/L) in Groundwater

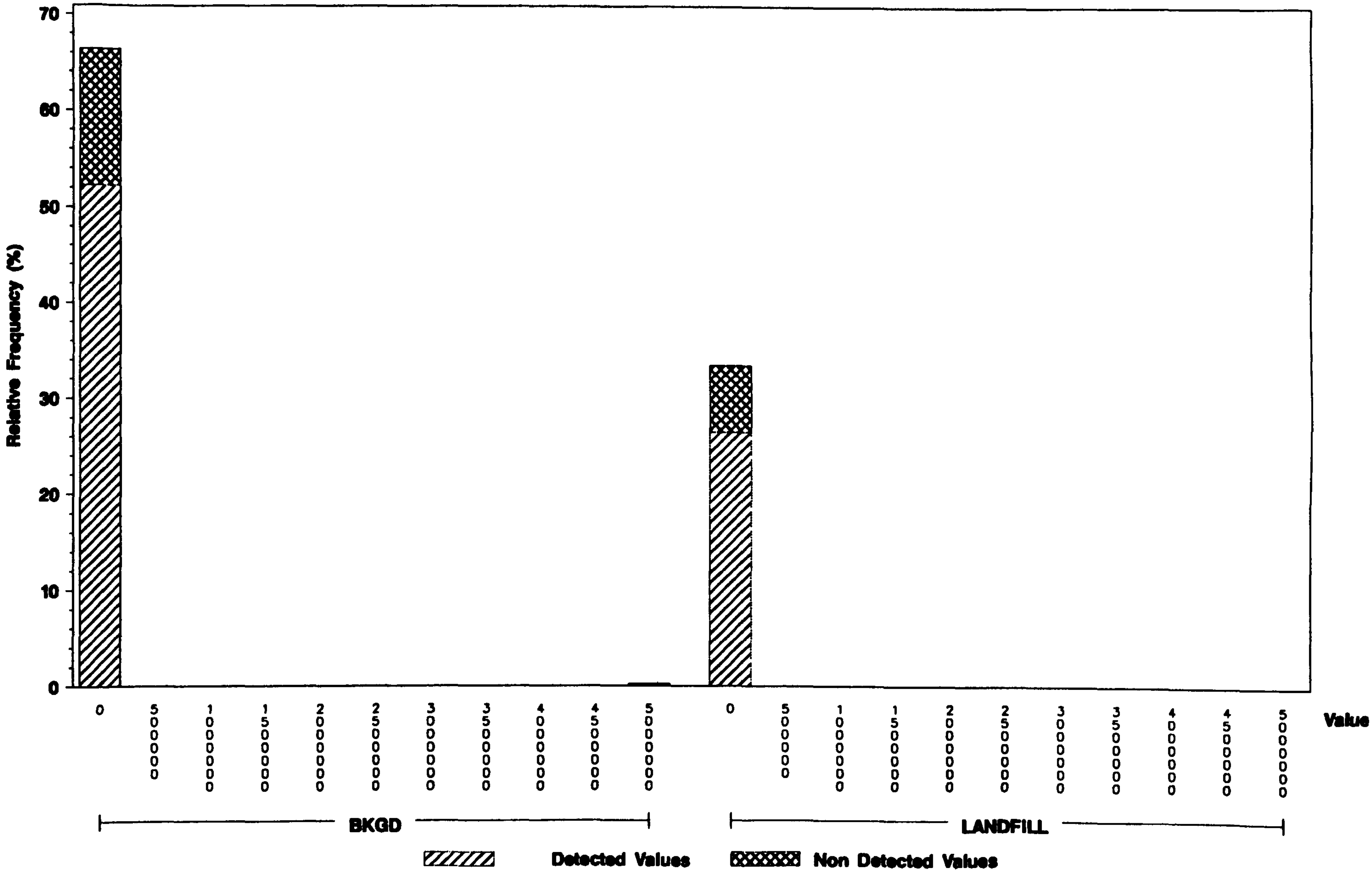
ANALYTE=MANGANESE



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved POTASSIUM (ug/L) in Groundwater

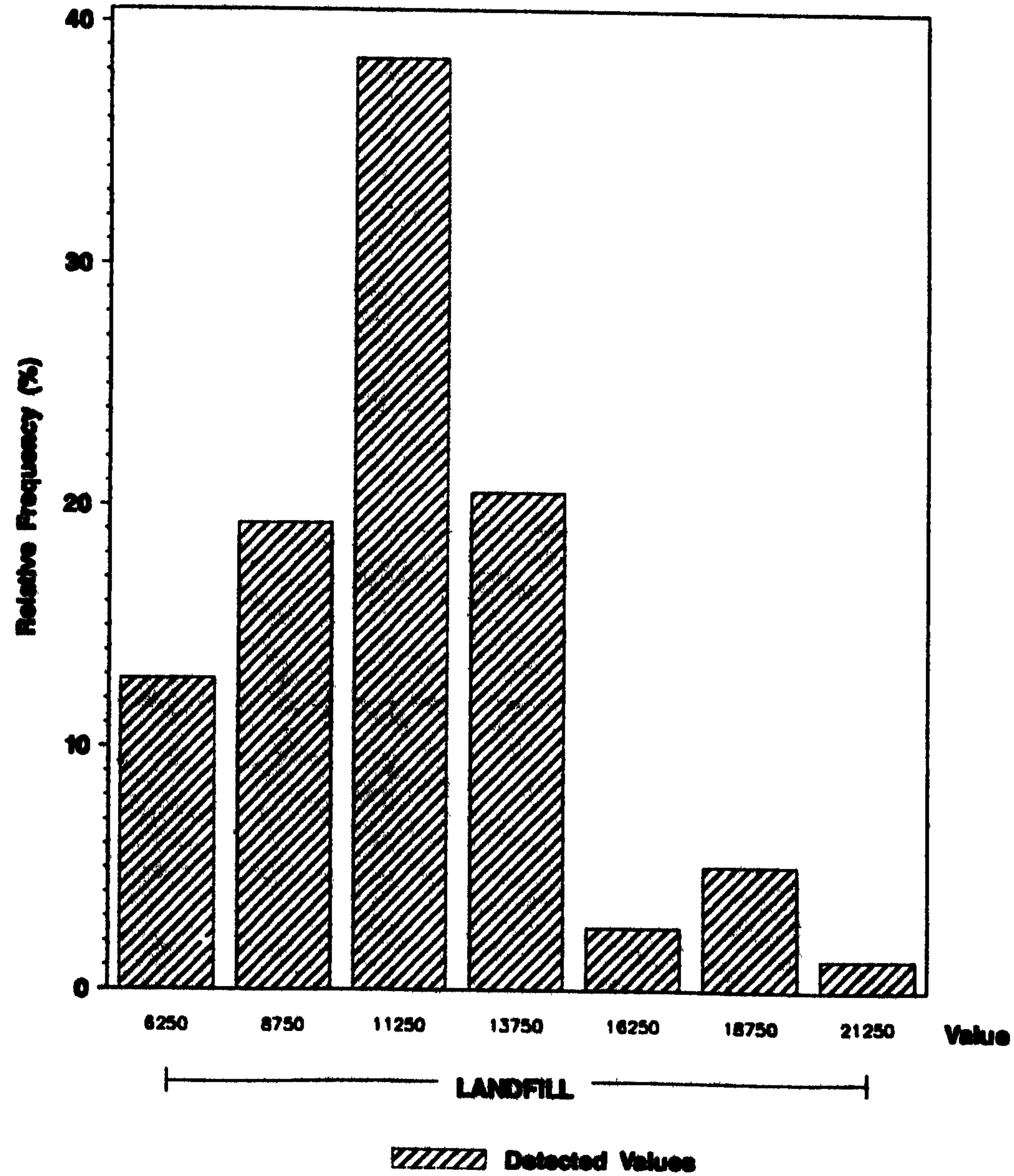
ANALYTE = POTASSIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved SILICON (ug/L) In Groundwater

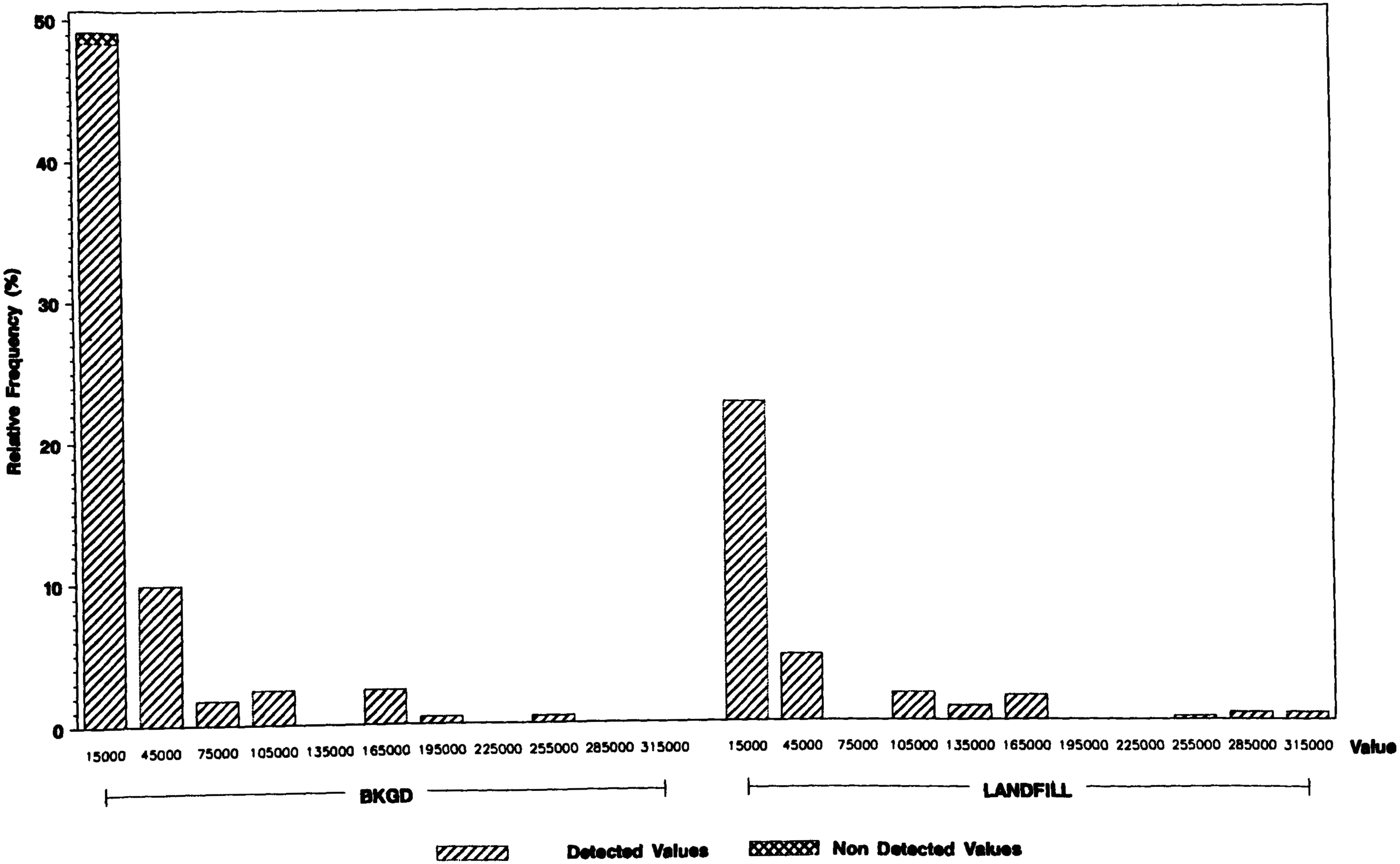
ANALYTE=SILICON



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved SODIUM (ug/L) In Groundwater

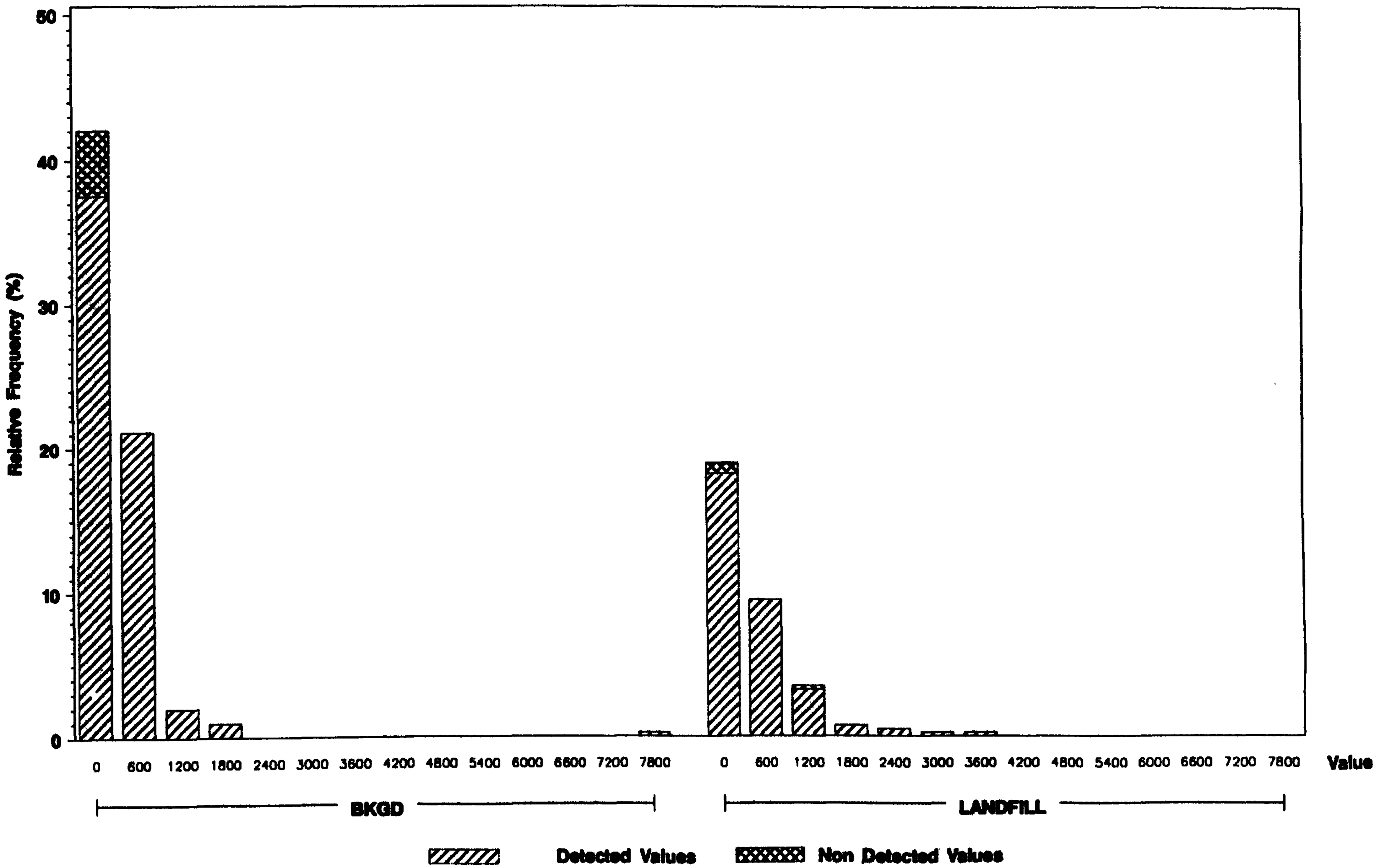
ANALYTE=SODIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved STRONTIUM (ug/L) In Groundwater

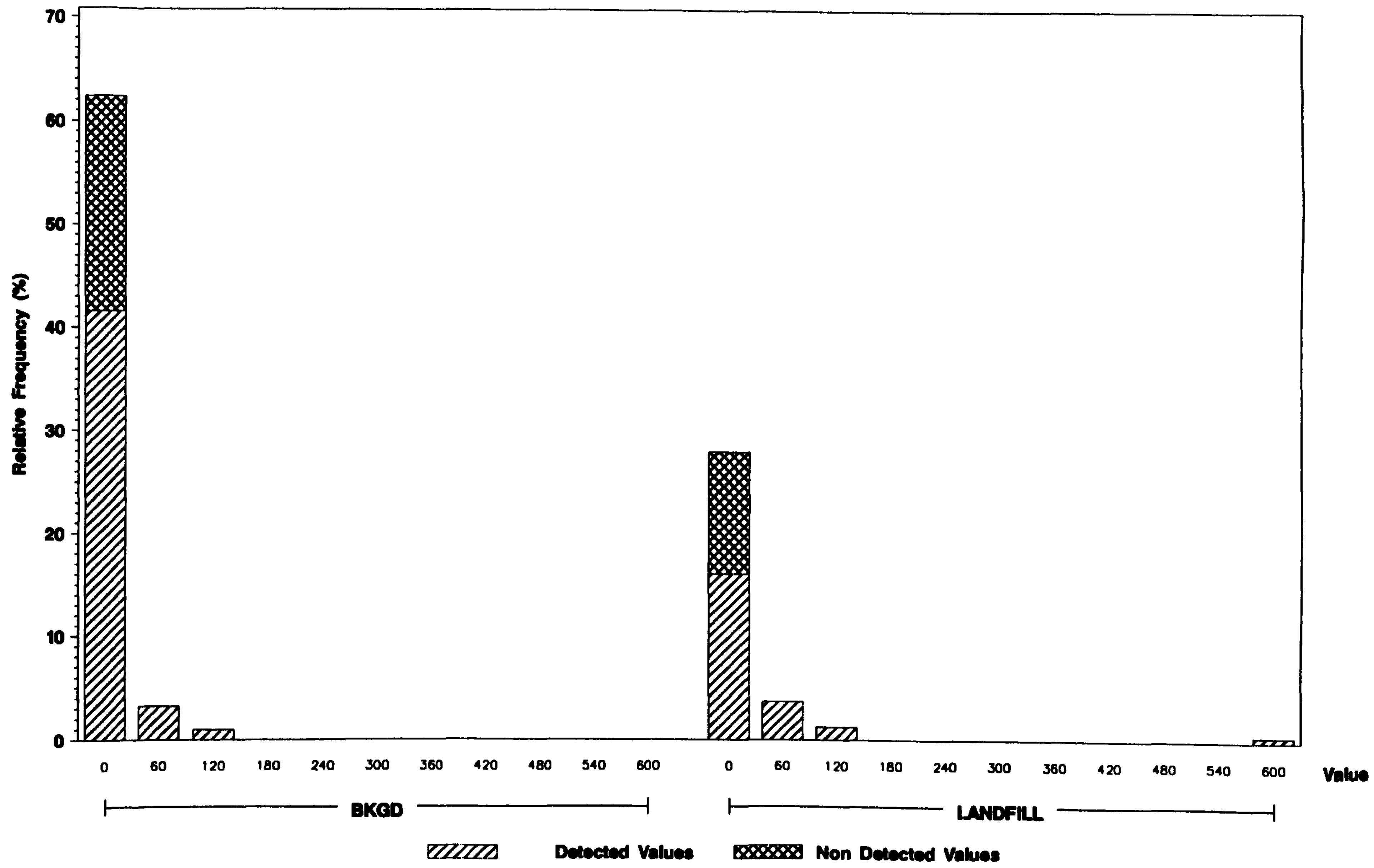
ANALYTE=STRONTIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved ZINC (ug/L) in Groundwater

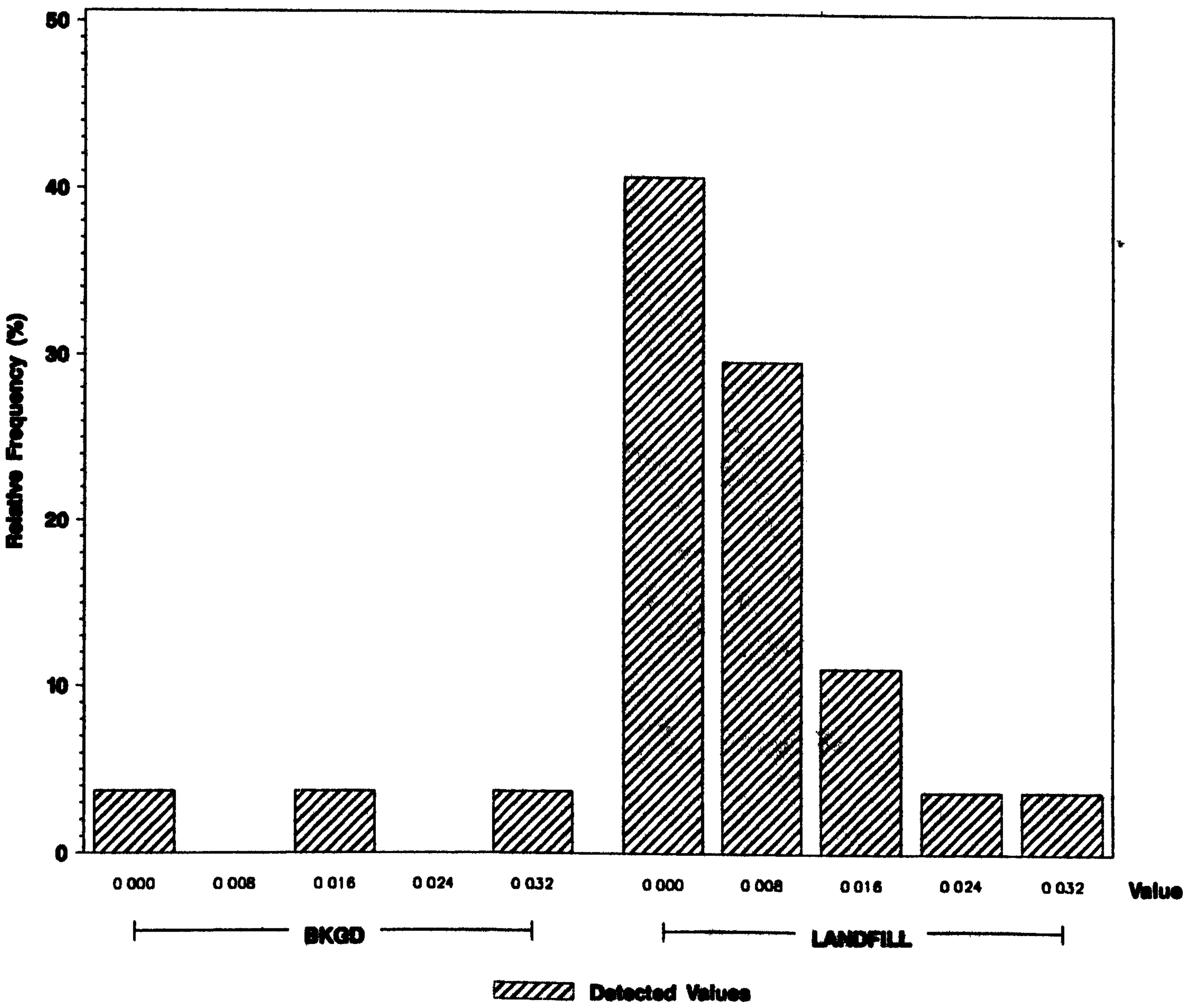
ANALYTE=ZINC



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved AMERICIUM – 241 (pCi/L) in Groundwater

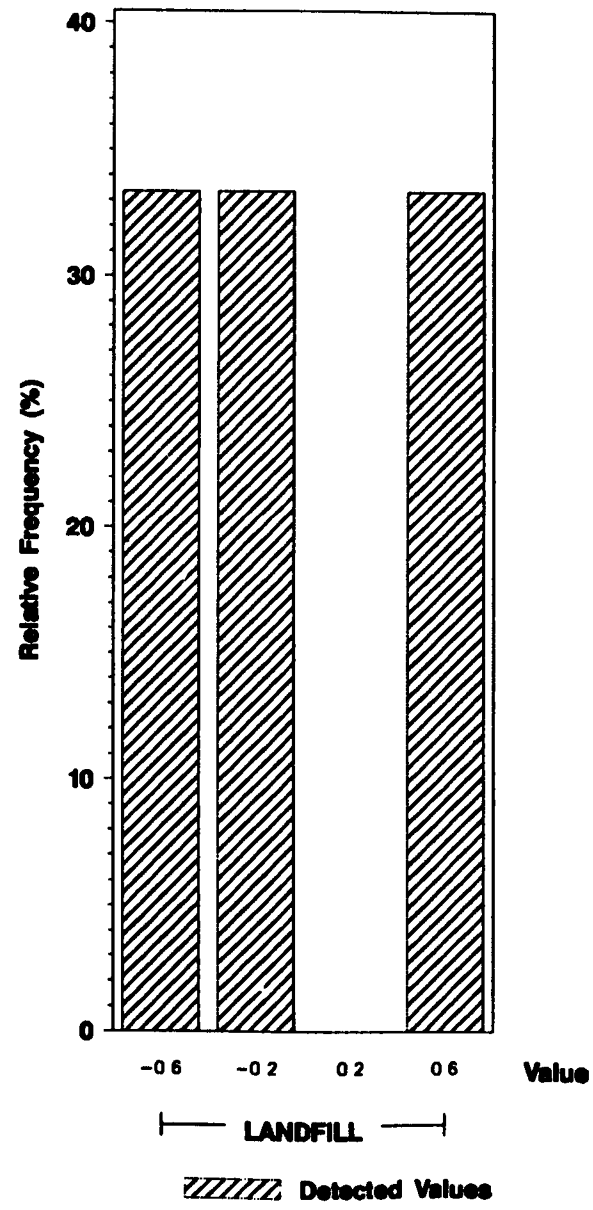
ANALYTE = AMERICIUM – 241



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved CESIUM – 134 (pCi/L) in Groundwater

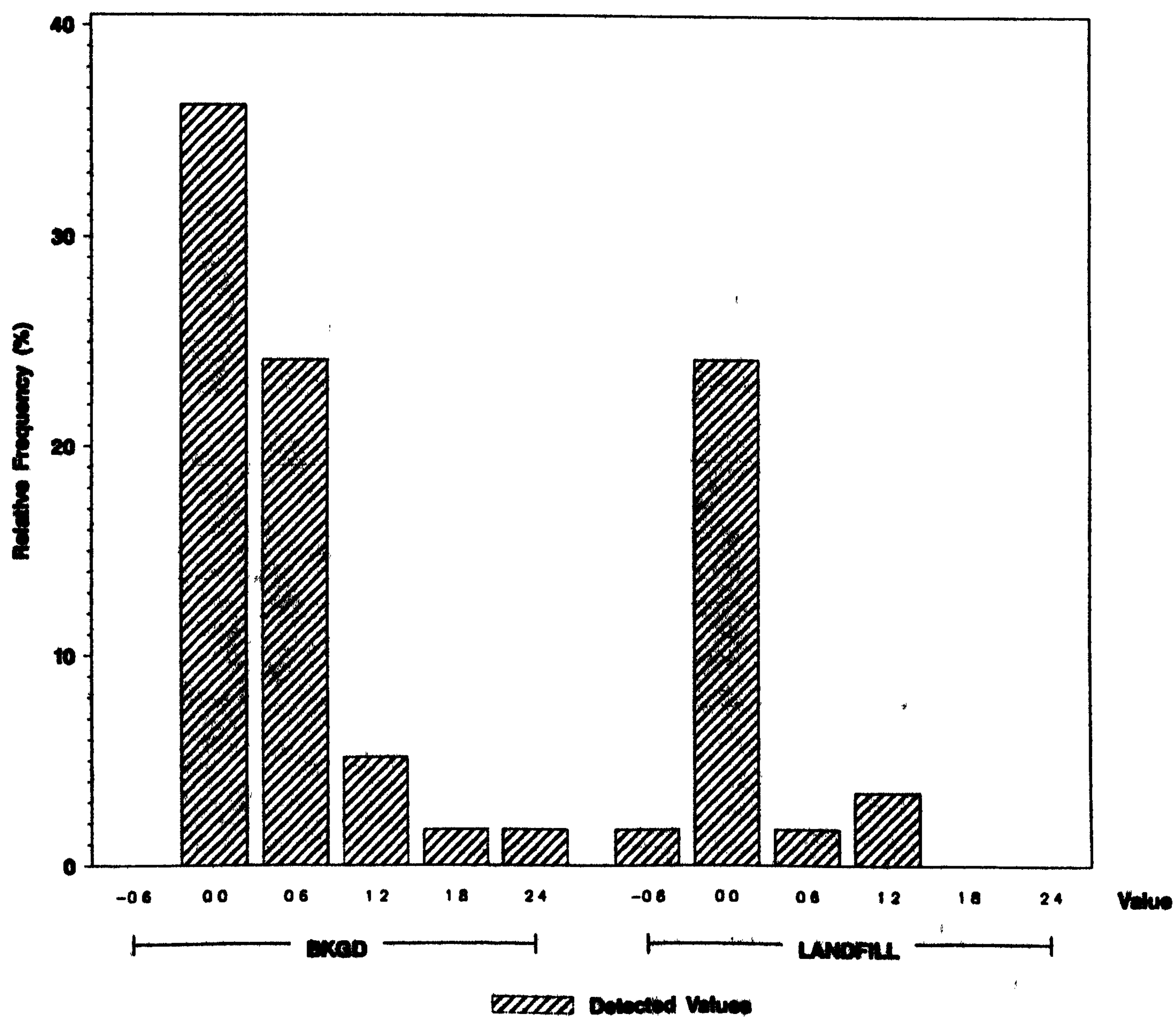
ANALYTE = CESIUM – 134



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved CESIUM – 137 (pCI/L) In Groundwater

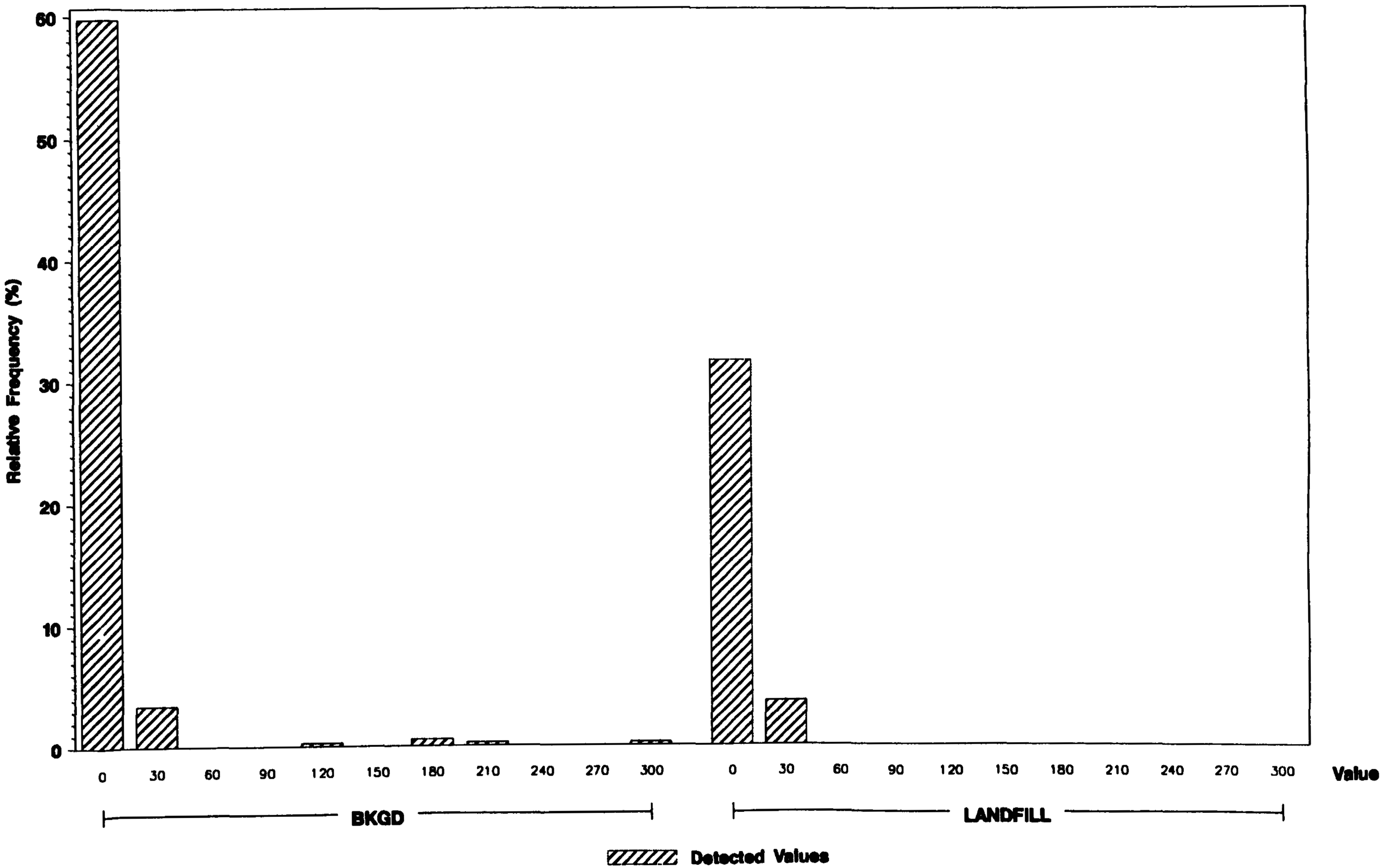
ANALYTE = CESIUM – 137



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved GROSS ALPHA (pCi/L) in Groundwater

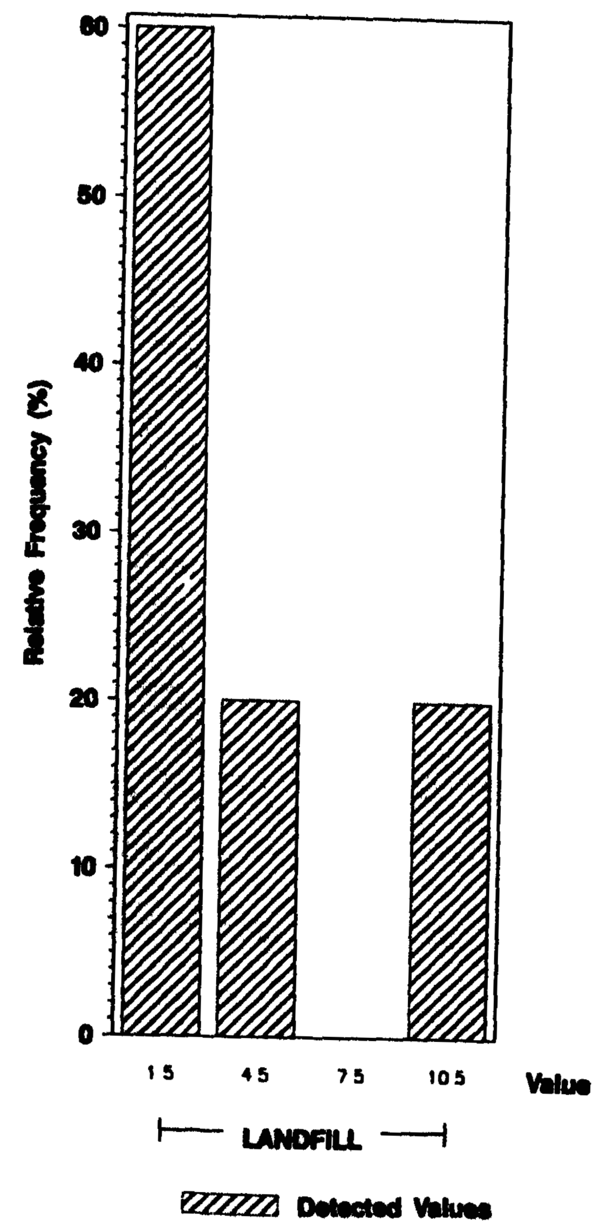
ANALYTE=GROSS ALPHA



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved GROSS ALPHA - SUSPENDED (pCi/L) In Groundwater

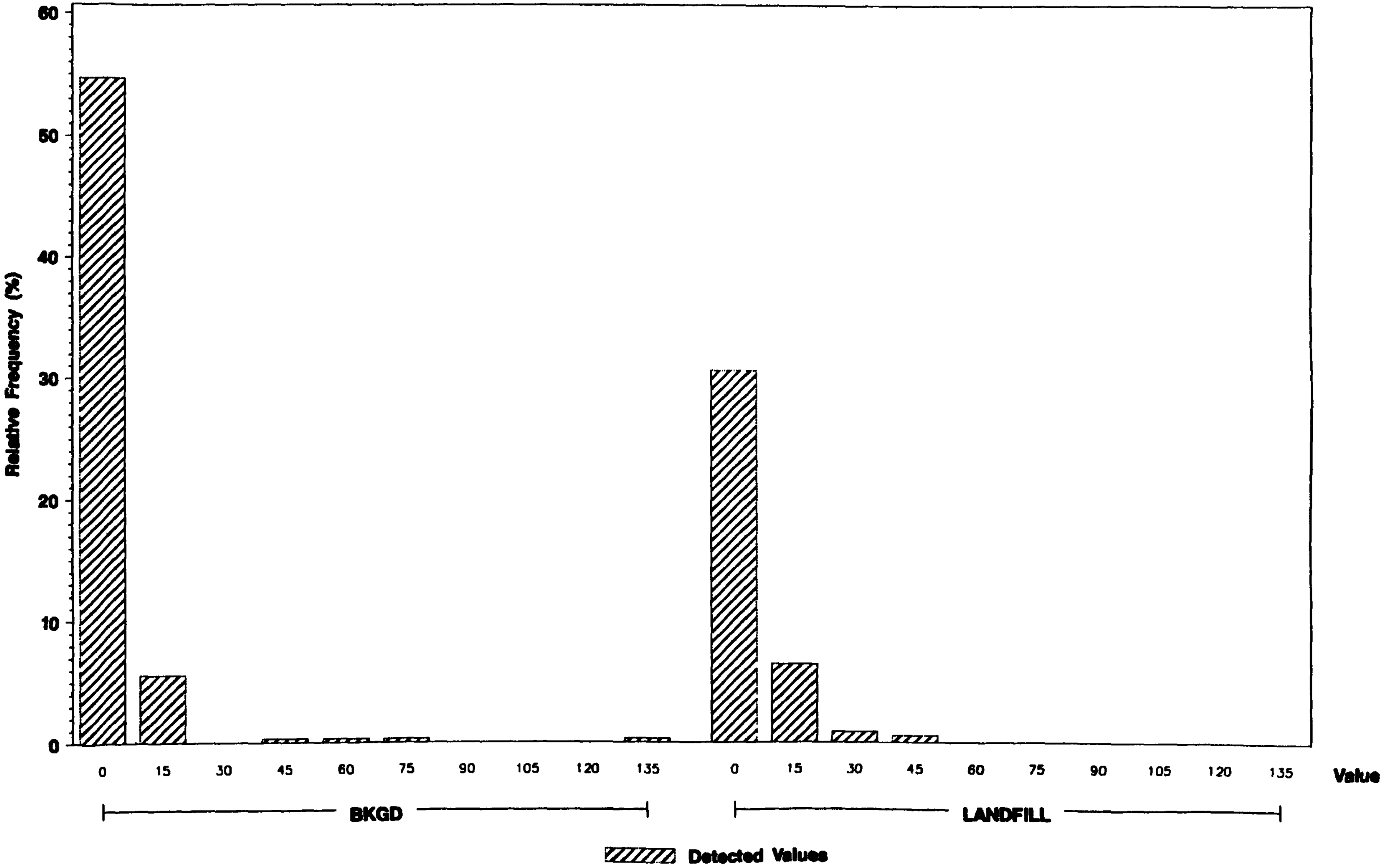
ANALYTE = GROSS ALPHA - SUSPENDED



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved GROSS BETA (pCi/L) in Groundwater

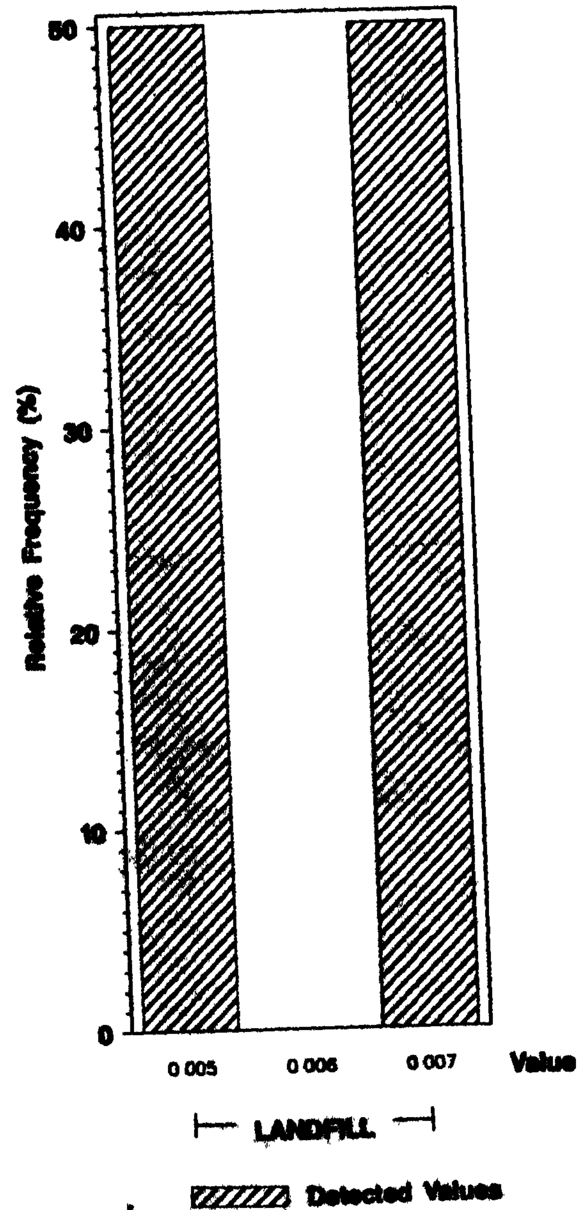
ANALYTE=GROSS BETA



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved PLUTONIUM – 239 (pCI/L) In Groundwater

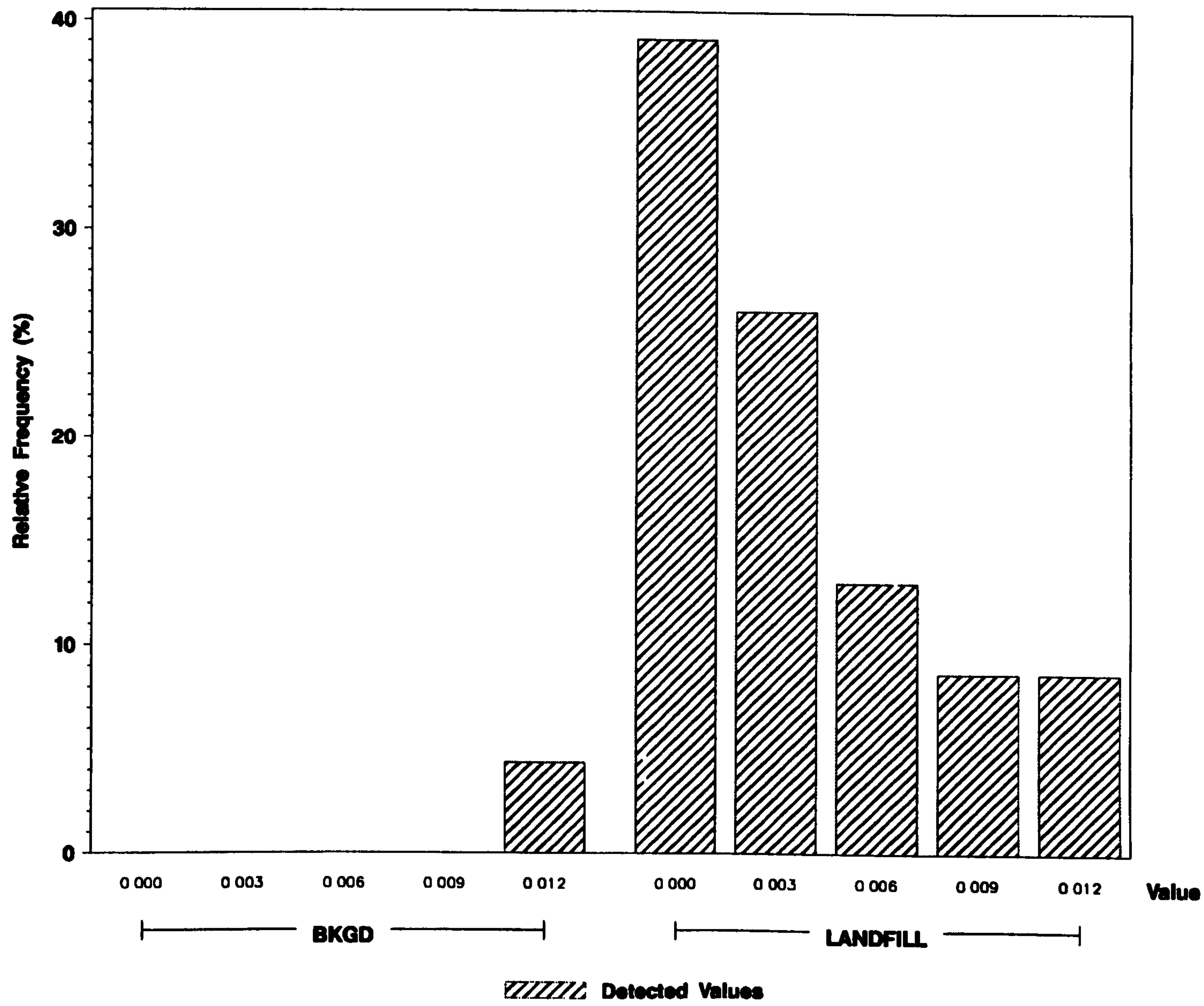
ANALYTE = PLUTONIUM – 239



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved PLUTONIUM – 239/240 (pCi/L) in Groundwater

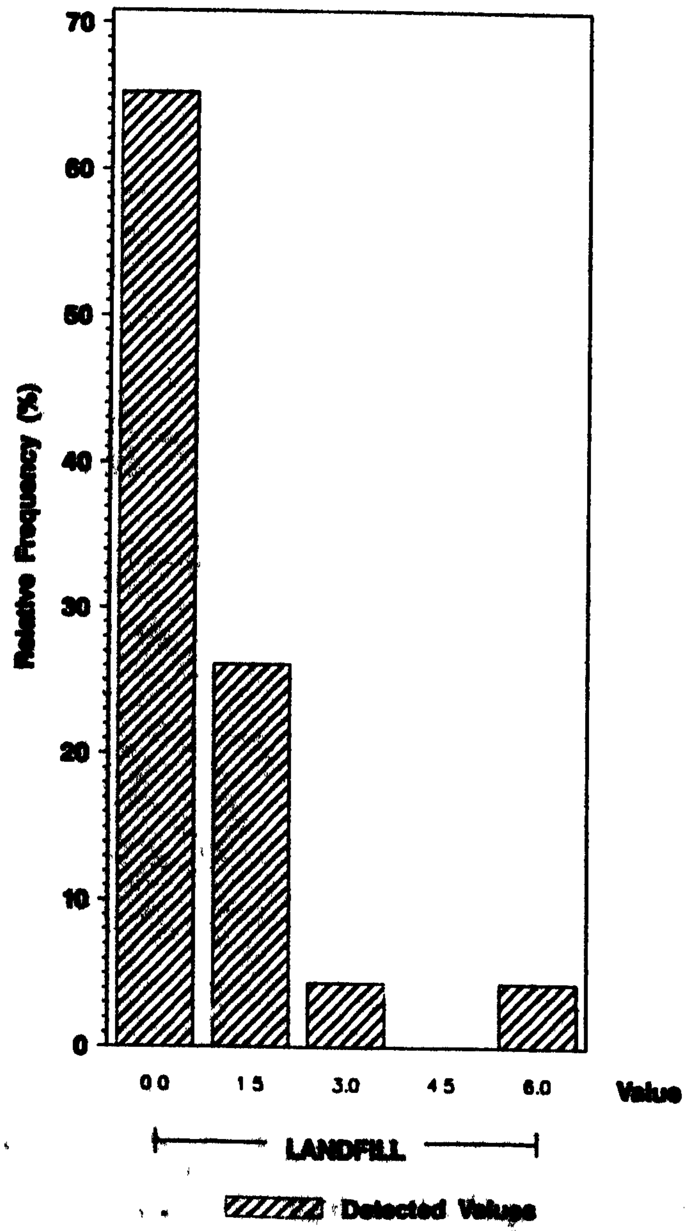
ANALYTE = PLUTONIUM – 239/240



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved TOTAL RADIOCESIUM (pCi/L) In Groundwater

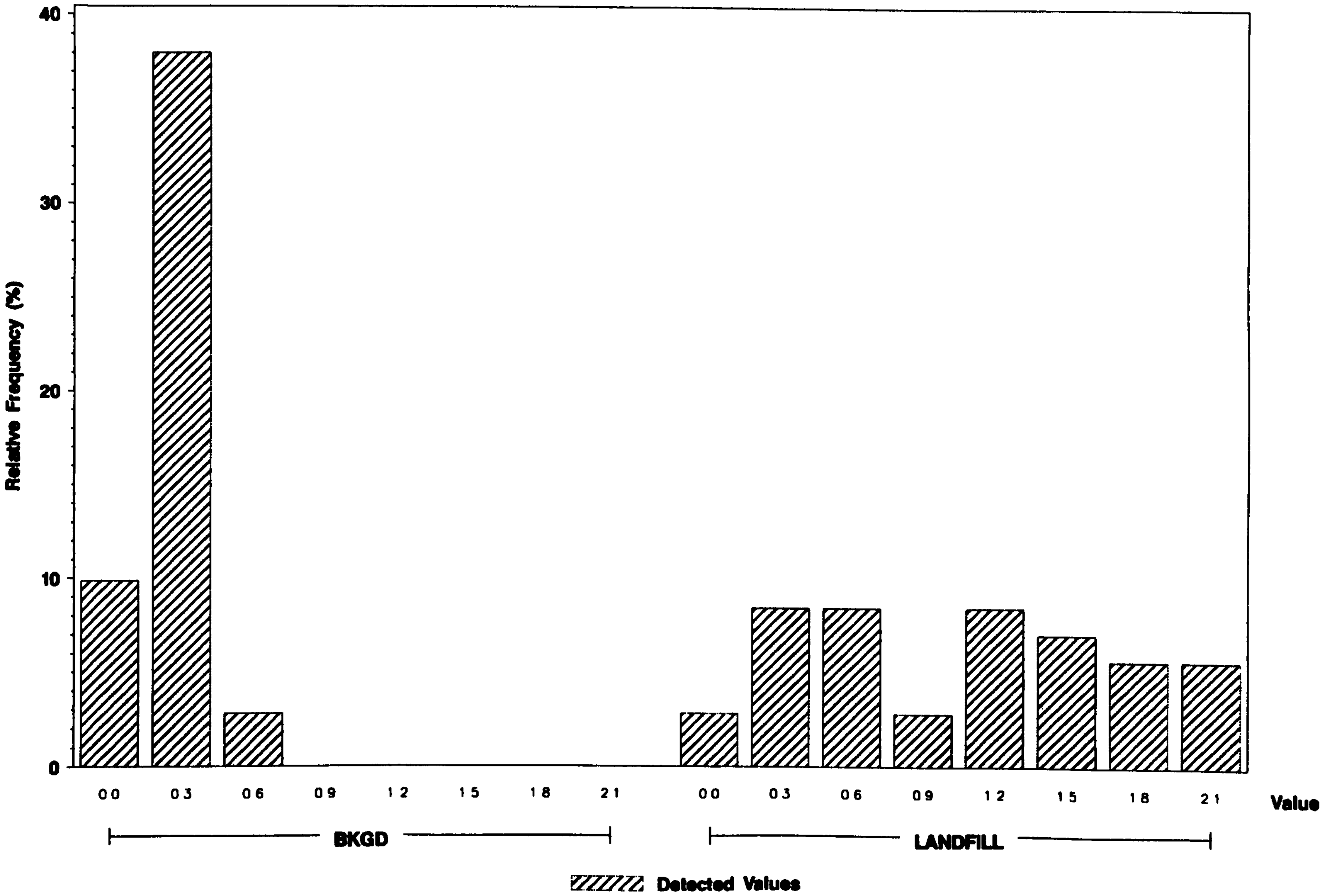
ANALYTE=TOTAL RADIOCESIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved RADIUM – 226 (pCi/L) in Groundwater

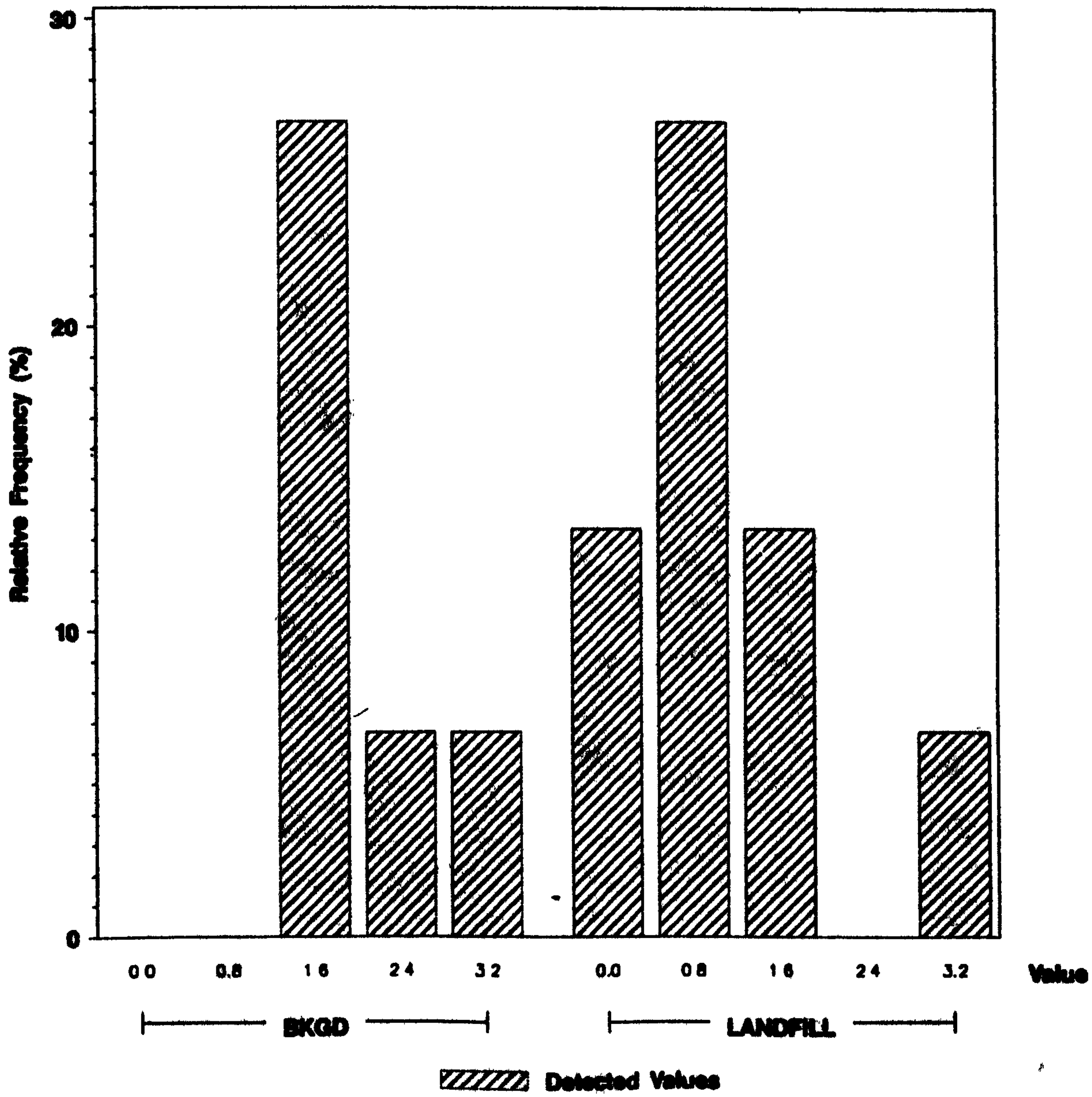
ANALYTE = RADIUM – 226



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved RADIUM – 228 (pCi/L) in Groundwater

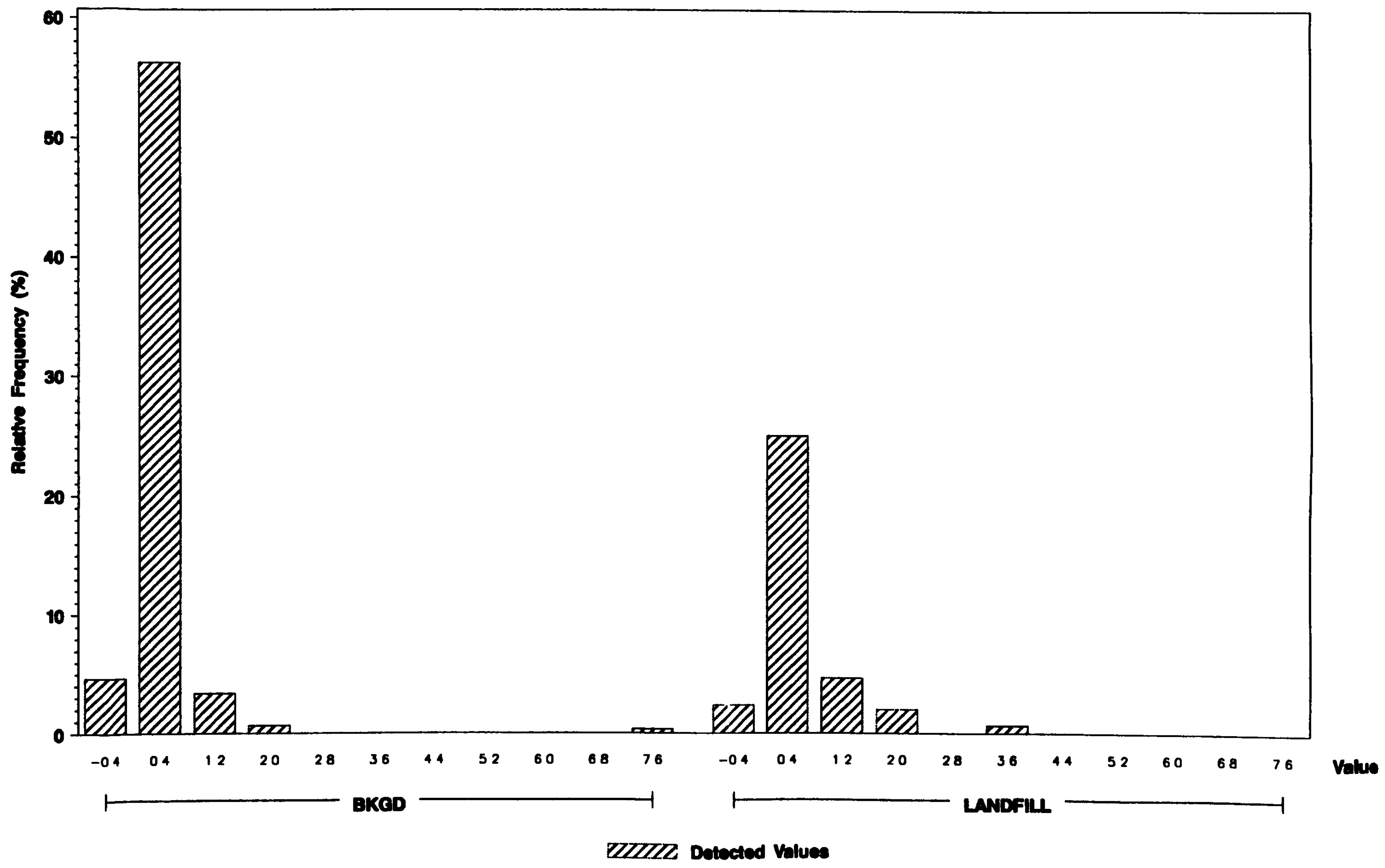
ANALYTE = RADIUM – 228



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved STRONTIUM – 89,90 (pCi/L) in Groundwater

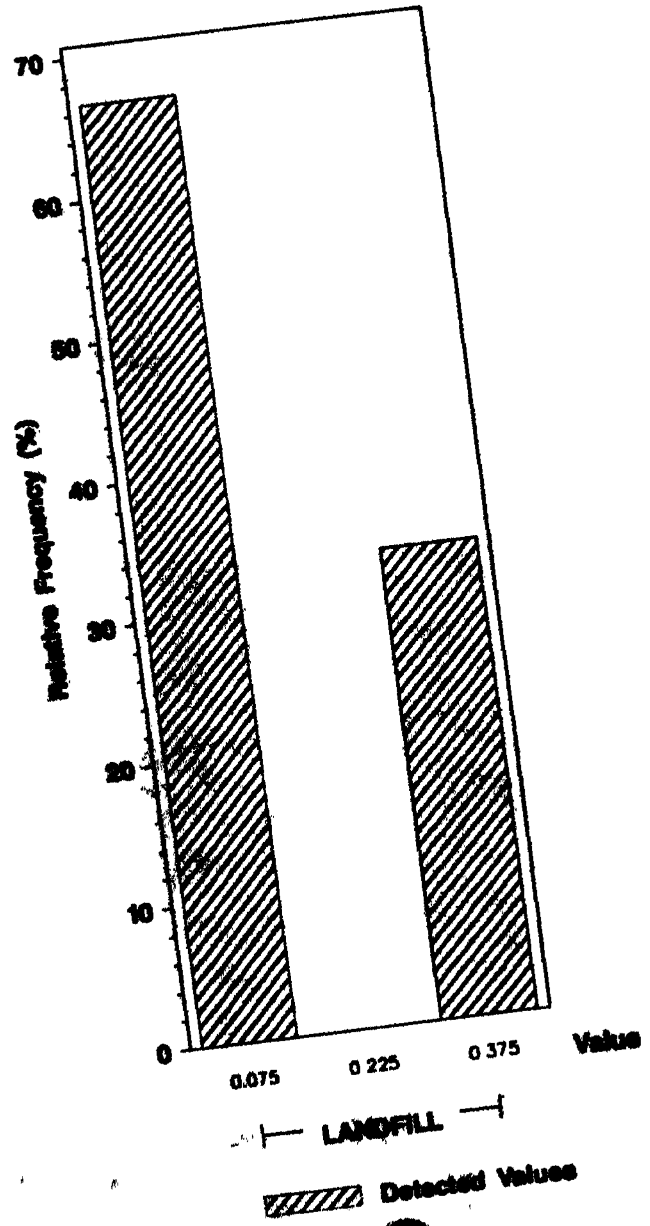
ANALYTE = STRONTIUM – 89,90



ackground vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved STRONTIUM – 90 (pCi/L) In Groundwater

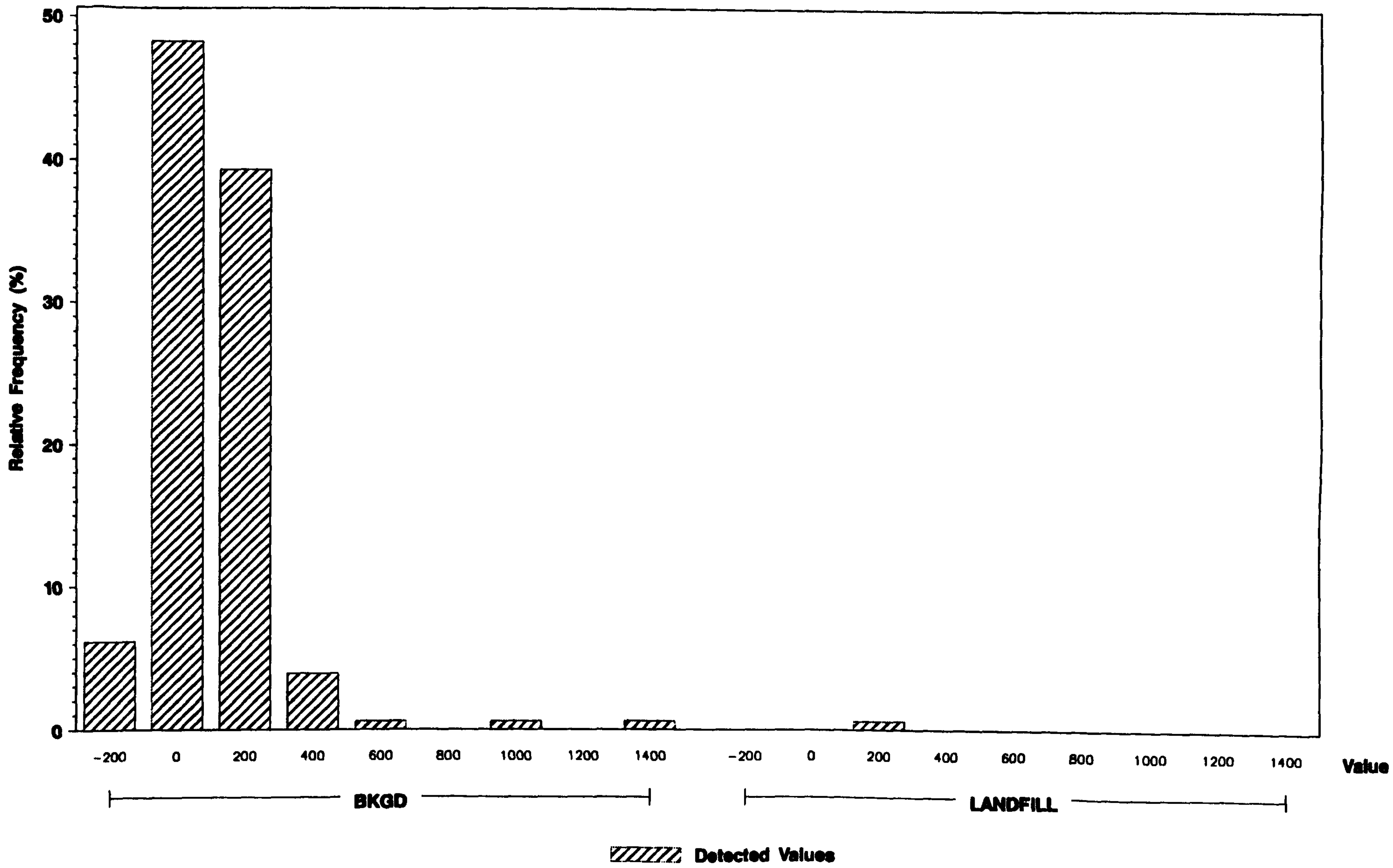
ANALYTE=STRONTIUM-90



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved TRITIUM (pCi/L) in Groundwater

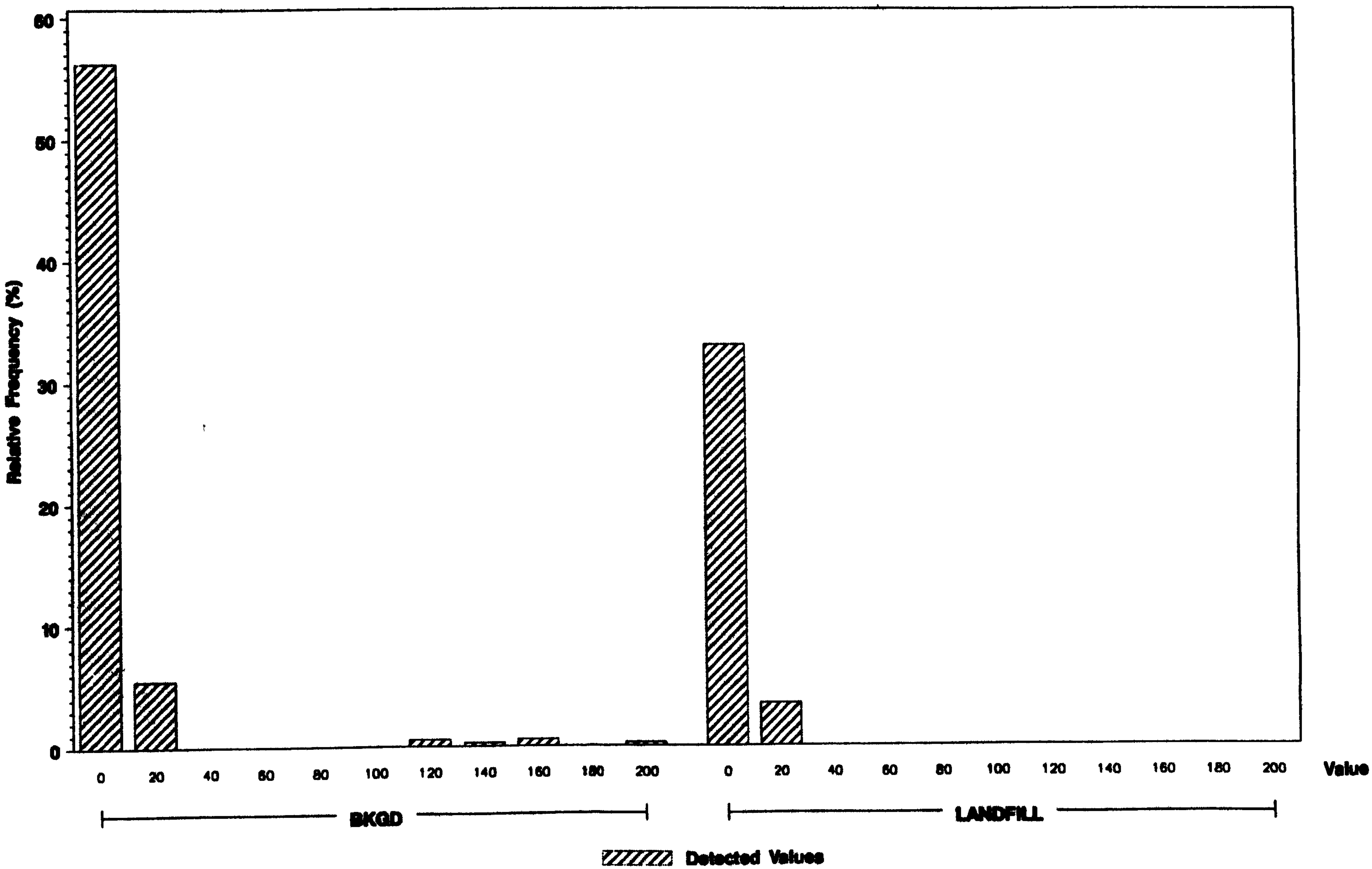
ANALYTE = TRITIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved URANIUM – 233, – 234 (pCi/L) in Groundwater

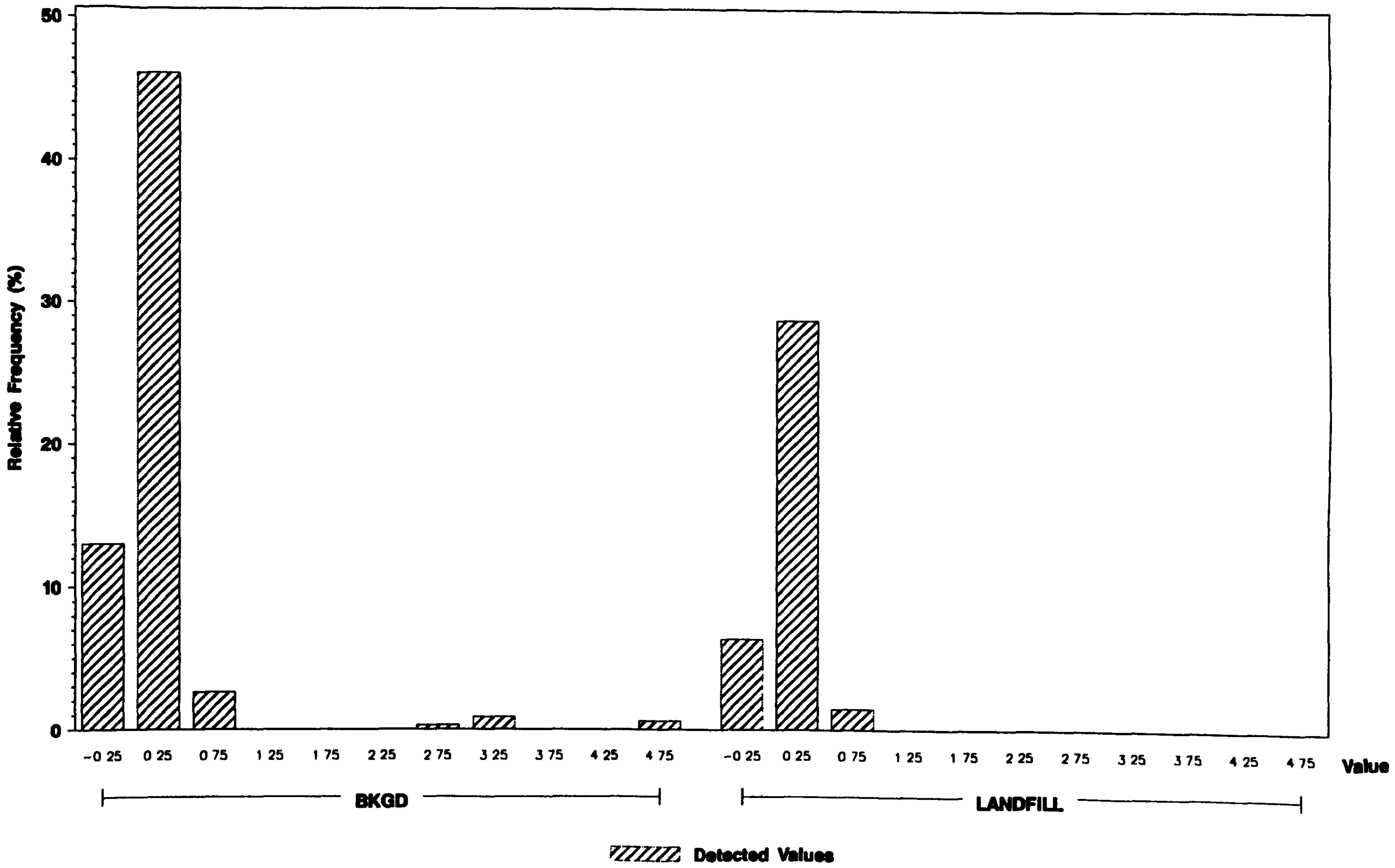
ANALYTE = URANIUM – 233, – 234



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved URANIUM-235 (pCi/L) in Groundwater

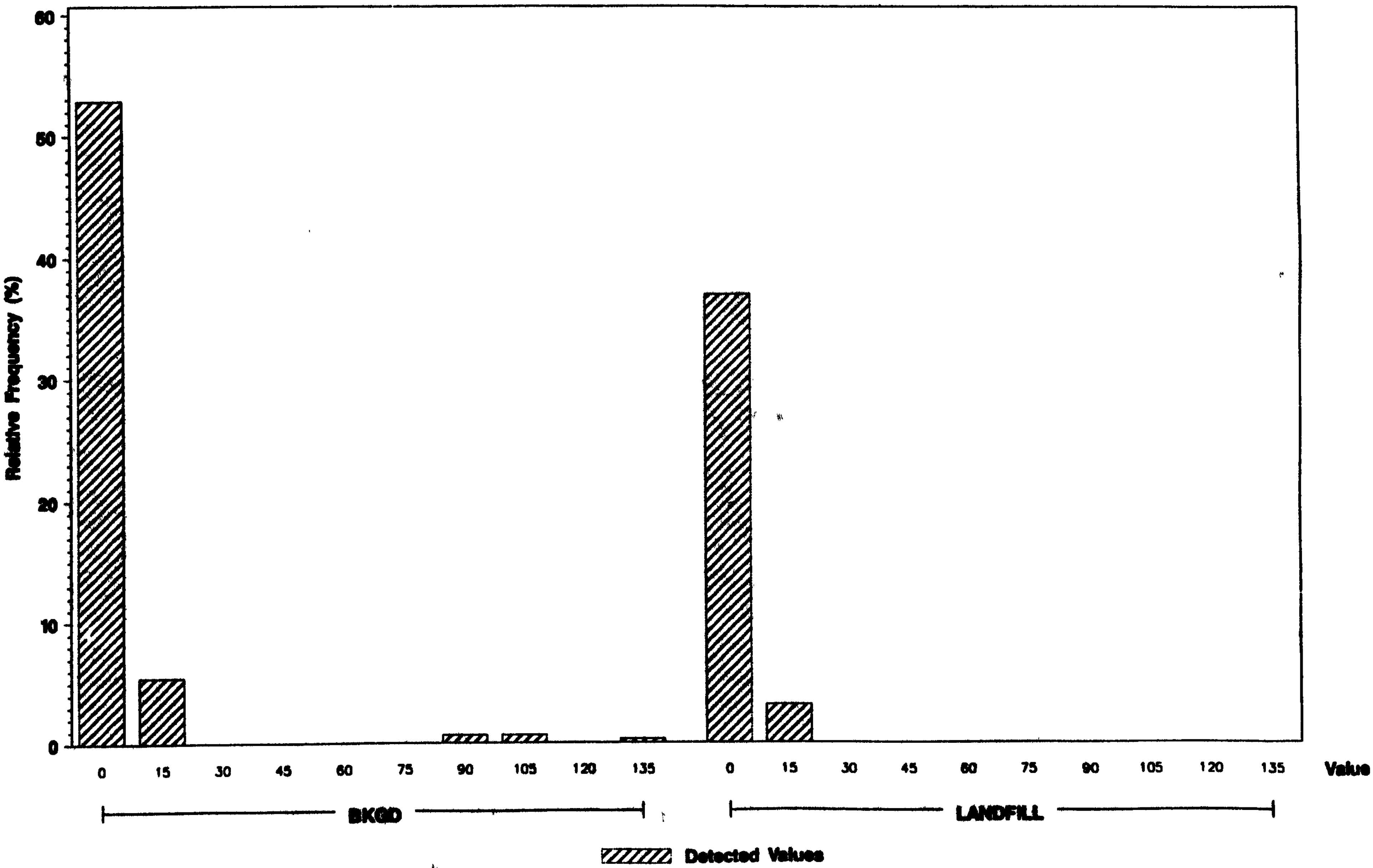
ANALYTE=URANIUM-235



Background vs Landfill Leachate (UHSU) Frequency Histogram

Dissolved URANIUM-238 (pCI/L) in Groundwater

ANALYTE=URANIUM-238



Leachate

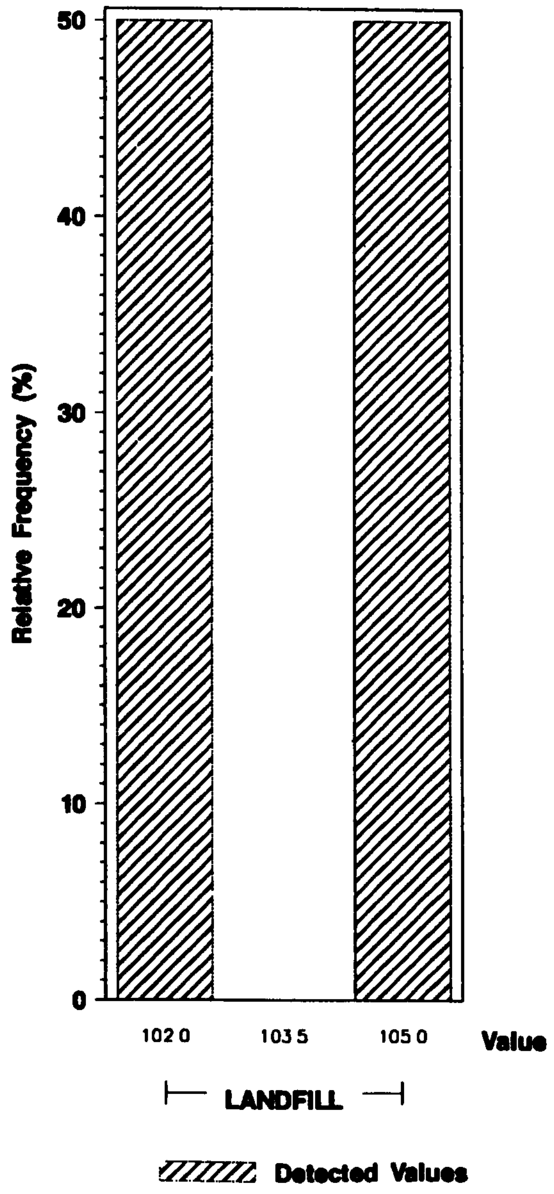
(Total)

Background vs OU 7 (Landfill) UHSU

Background vs Landfill Leachate (UHSU) Frequency Histogram

Total 1,2 DICHLOROETHANE – D4 (ug/L) in Groundwater

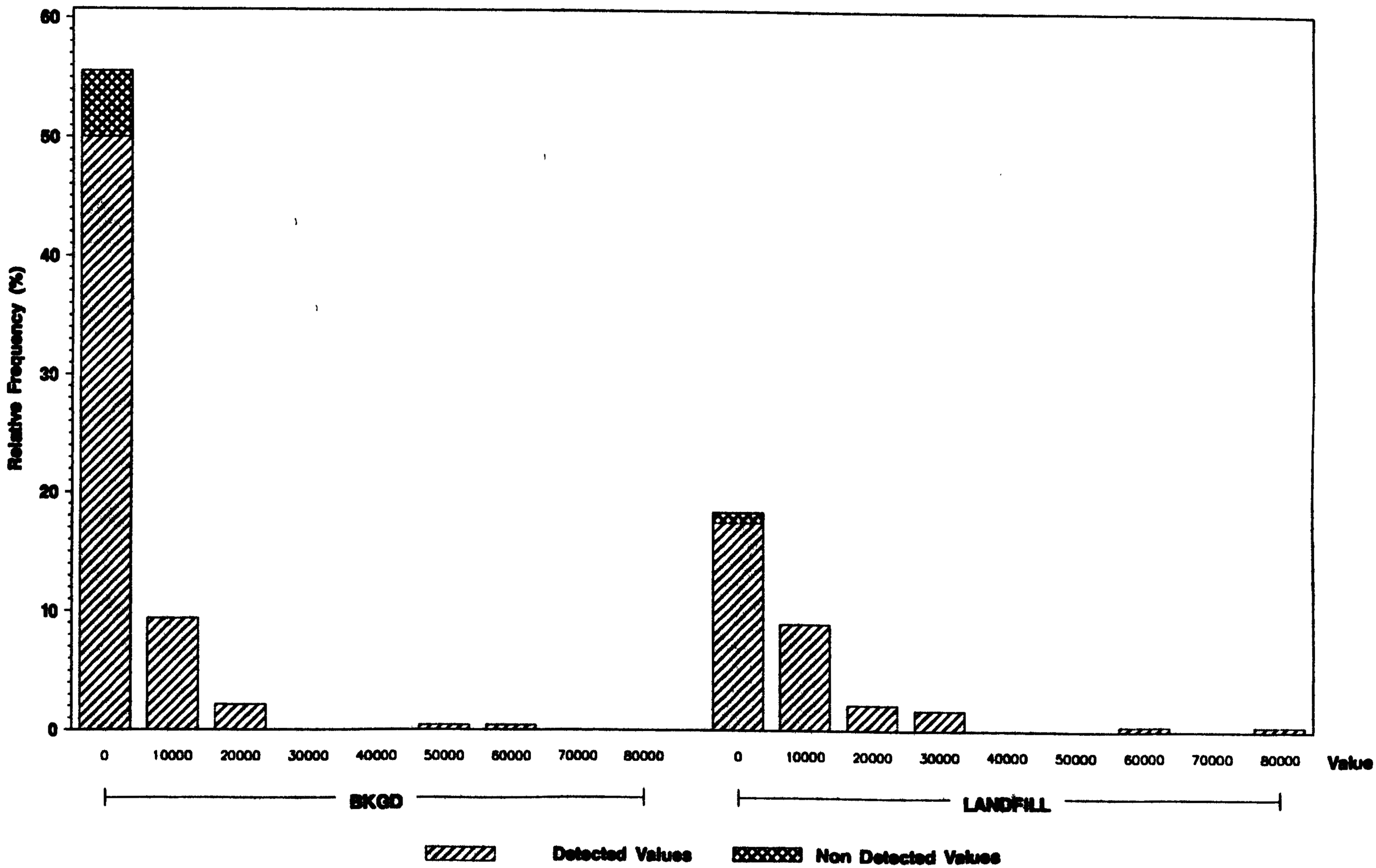
ANALYTE=1,2 DICHLOROETHANE – D4



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total ALUMINUM (ug/L) in Groundwater

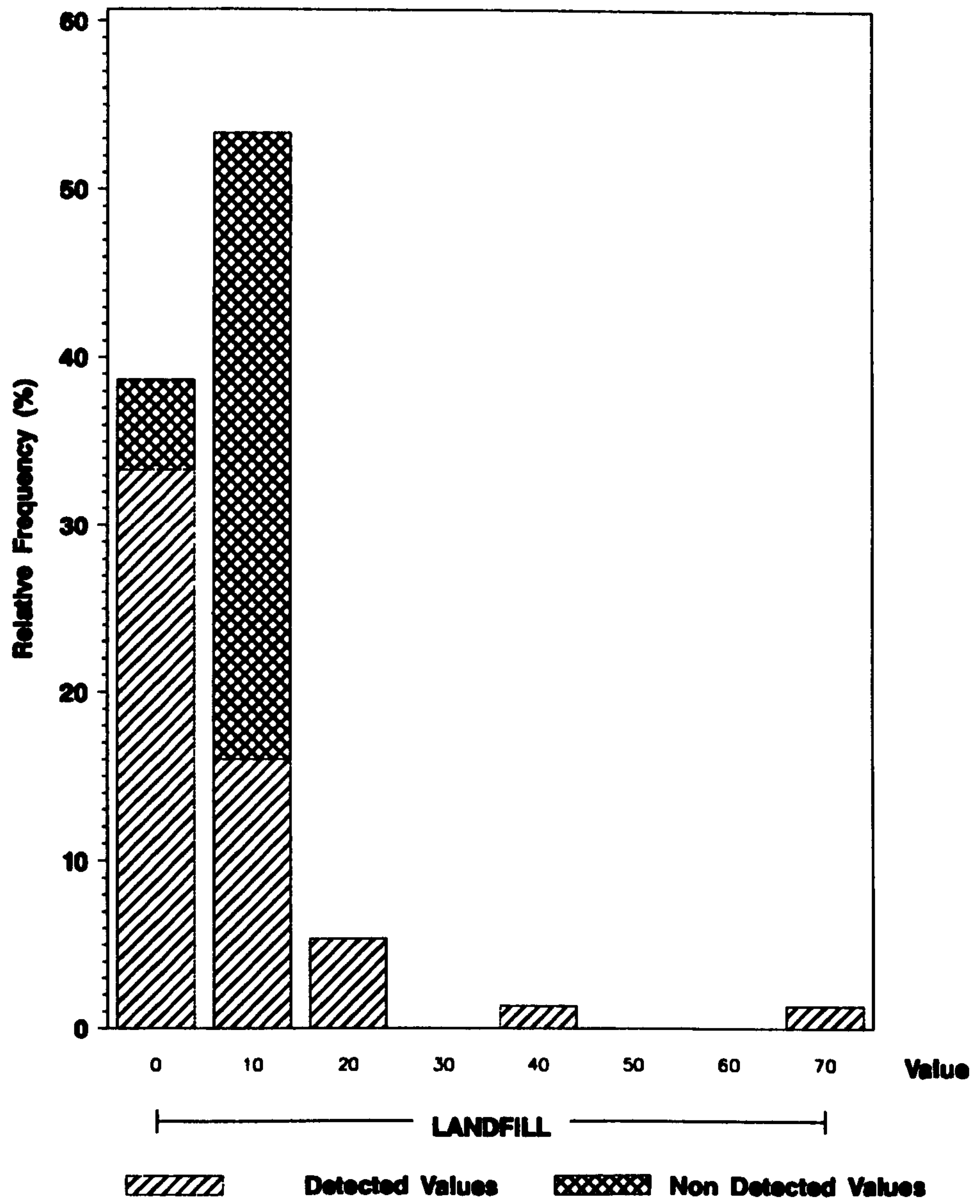
ANALYTE=ALUMINUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total ARSENIC (ug/L) in Groundwater

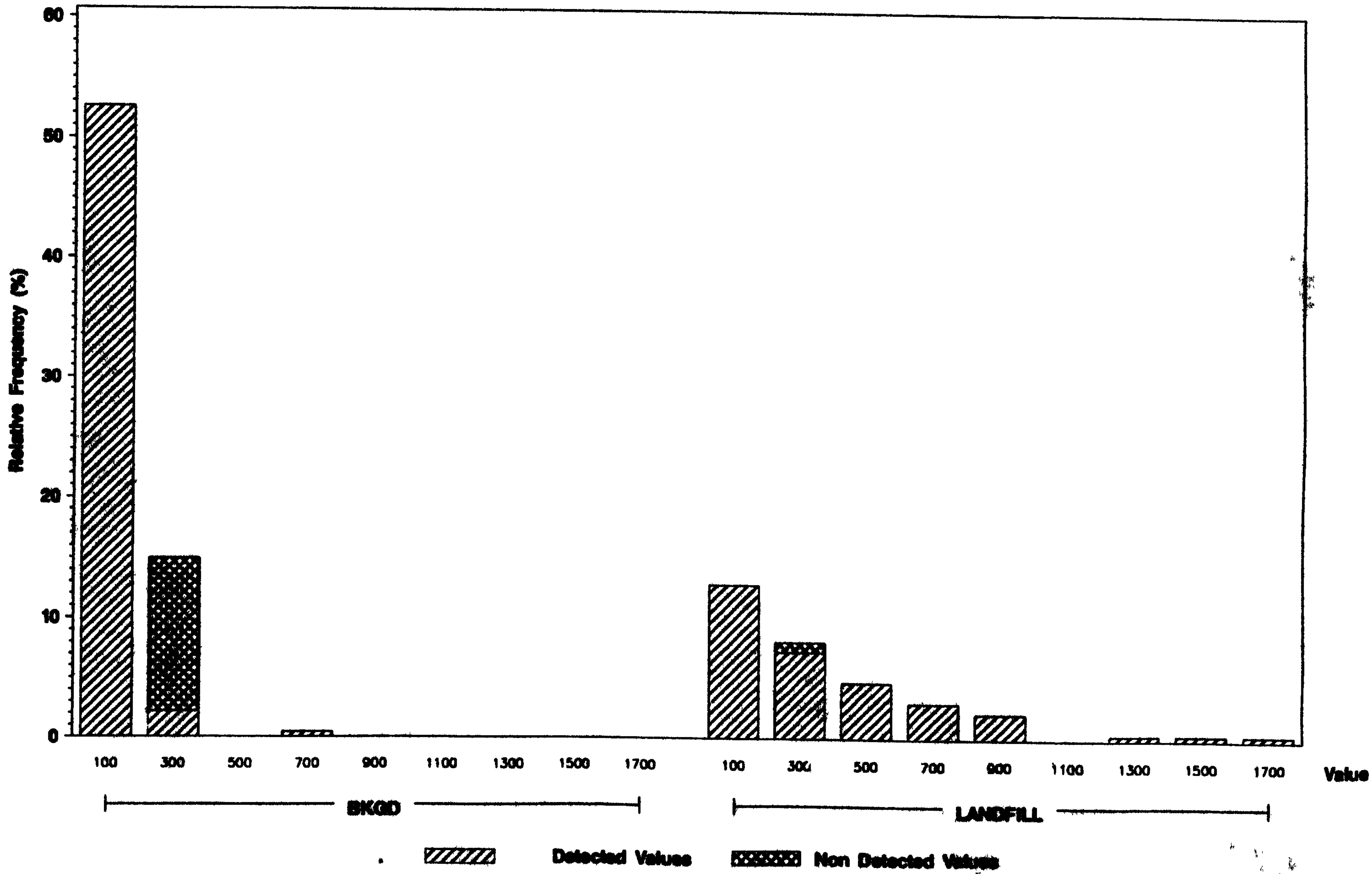
ANALYTE=ARSENIC



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total BARIUM (ug/L) in Groundwater

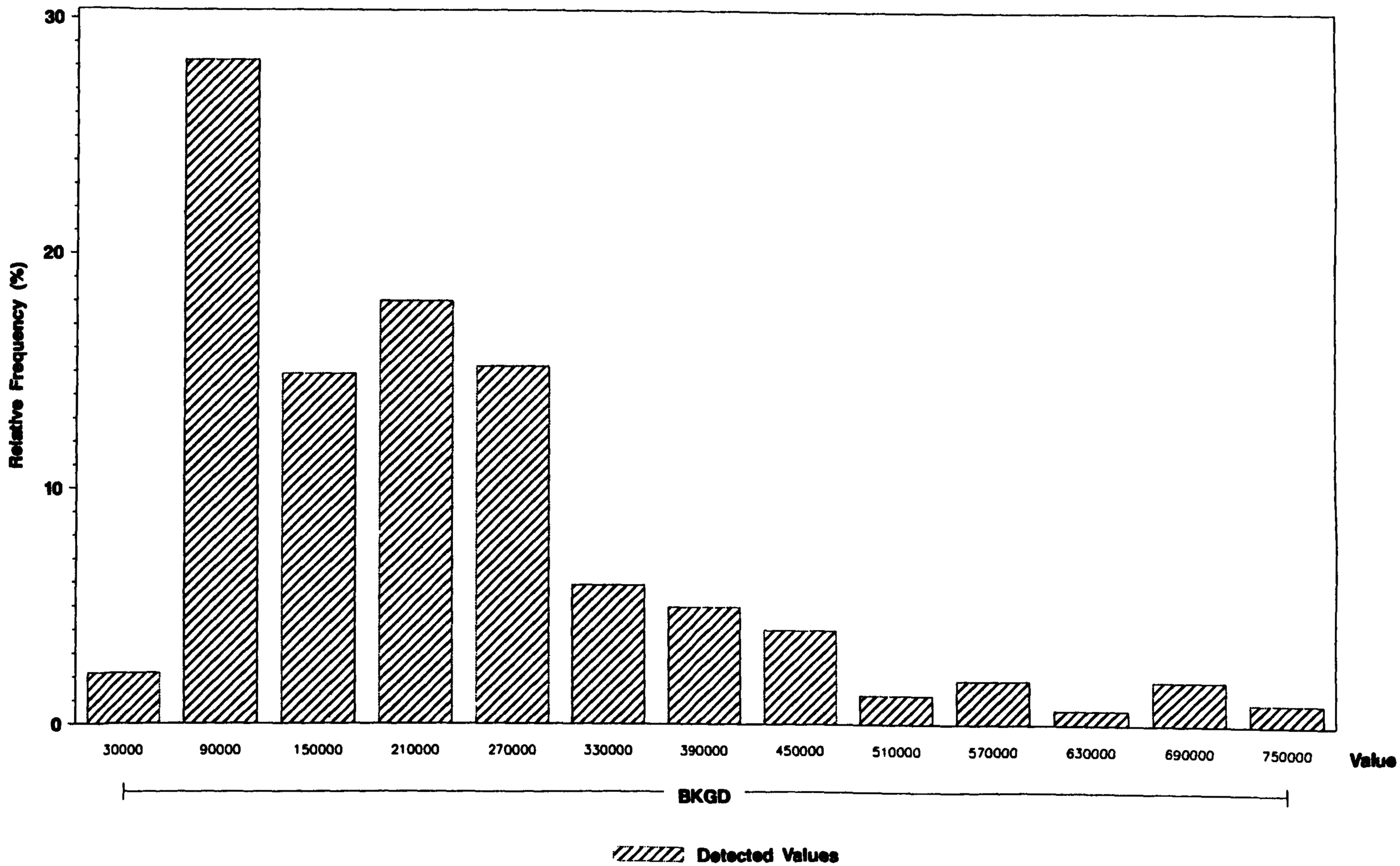
ANALYTE = BARIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total BICARBONATE (ug/L) in Groundwater

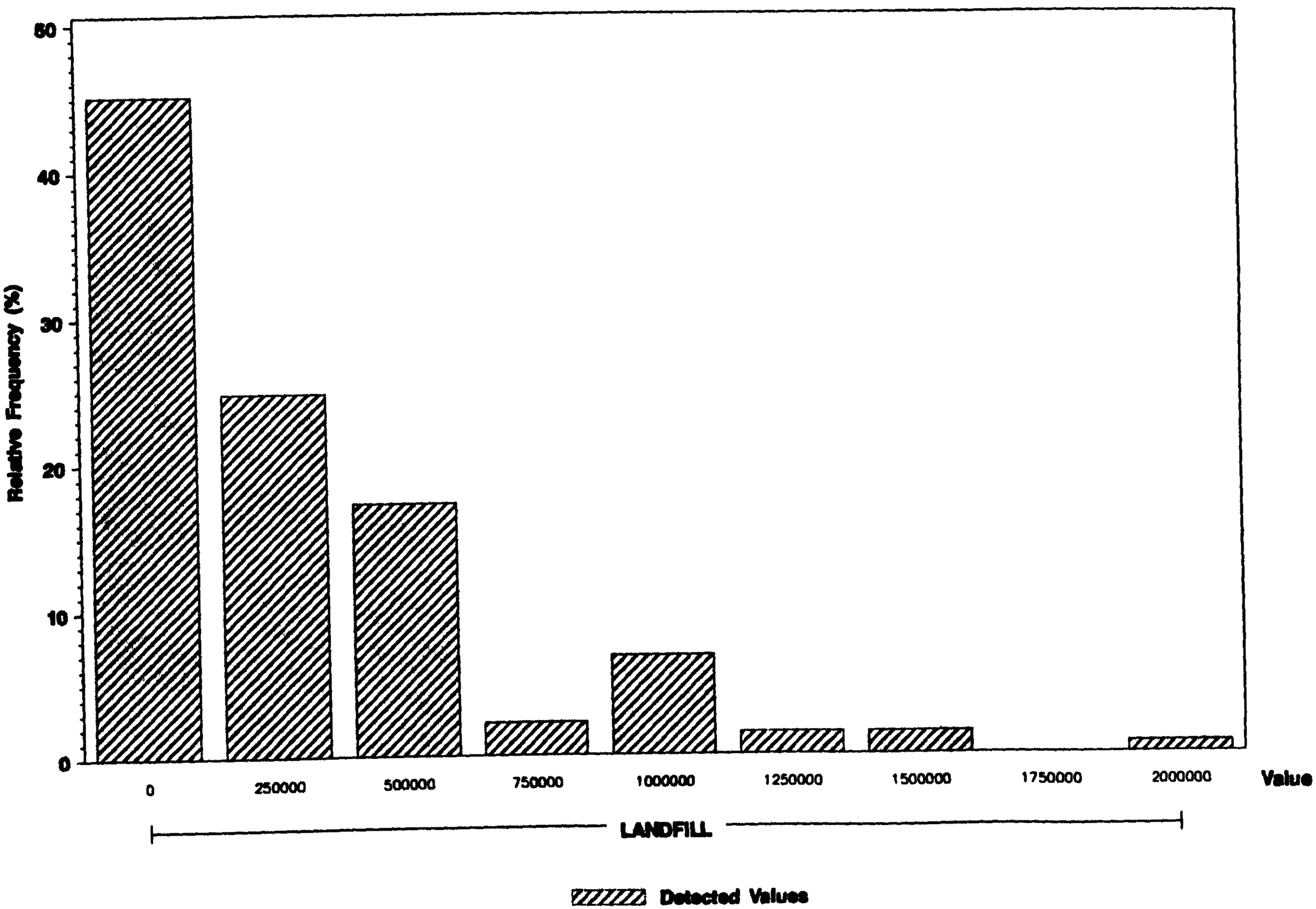
ANALYTE=BICARBONATE



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total BICARBONATE AS CACO3 (ug/L) In Groundwater

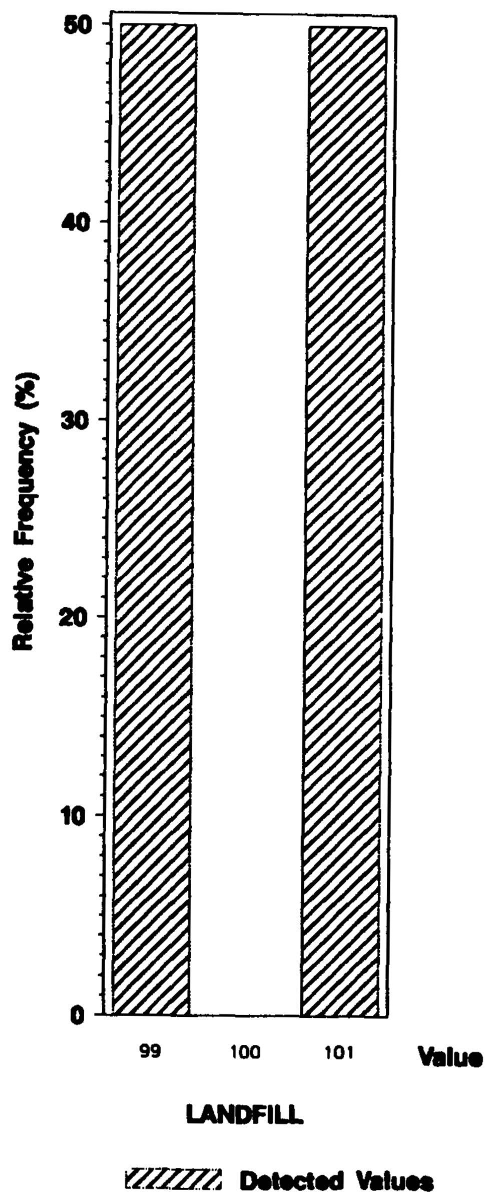
ANALYTE=BICARBONATE AS CACO3



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total BROMOFLUOROBENZENE (ug/L) in Groundwater

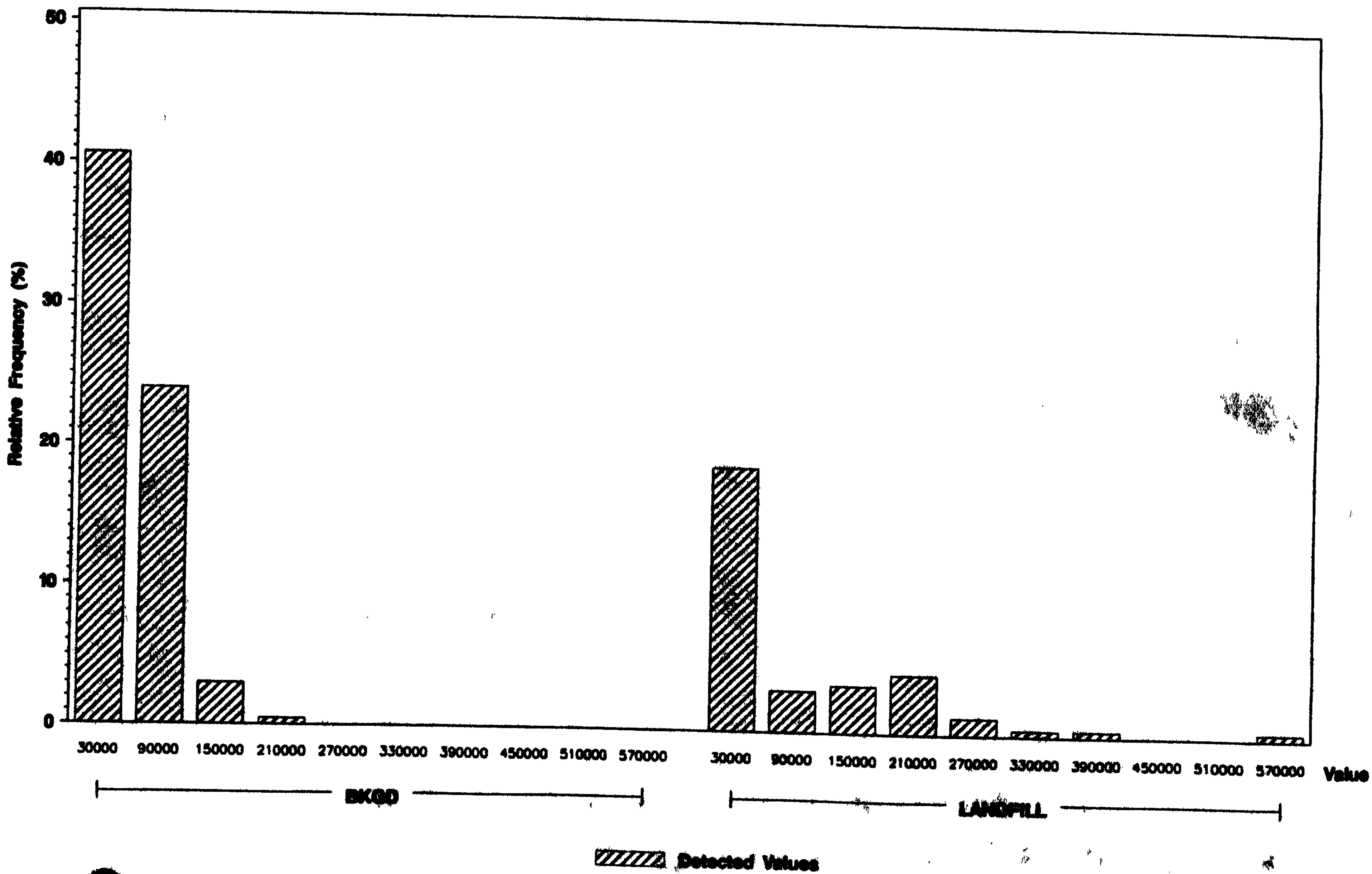
ANALYTE=BROMOFLUOROBENZENE



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total CALCIUM (ug/L) in Groundwater

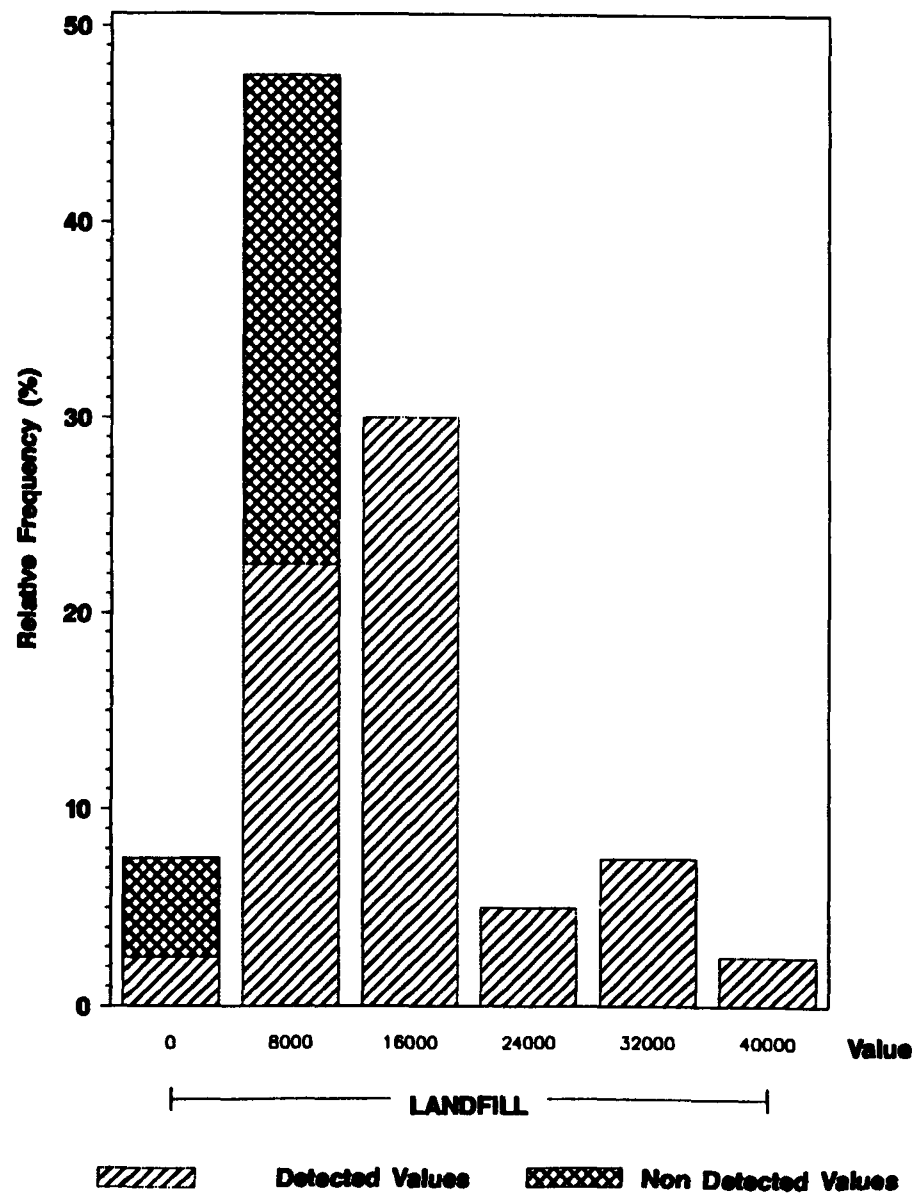
ANALYTE=CALCIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total CHEMICAL OXYGEN DEMAND (ug/L) in Groundwater

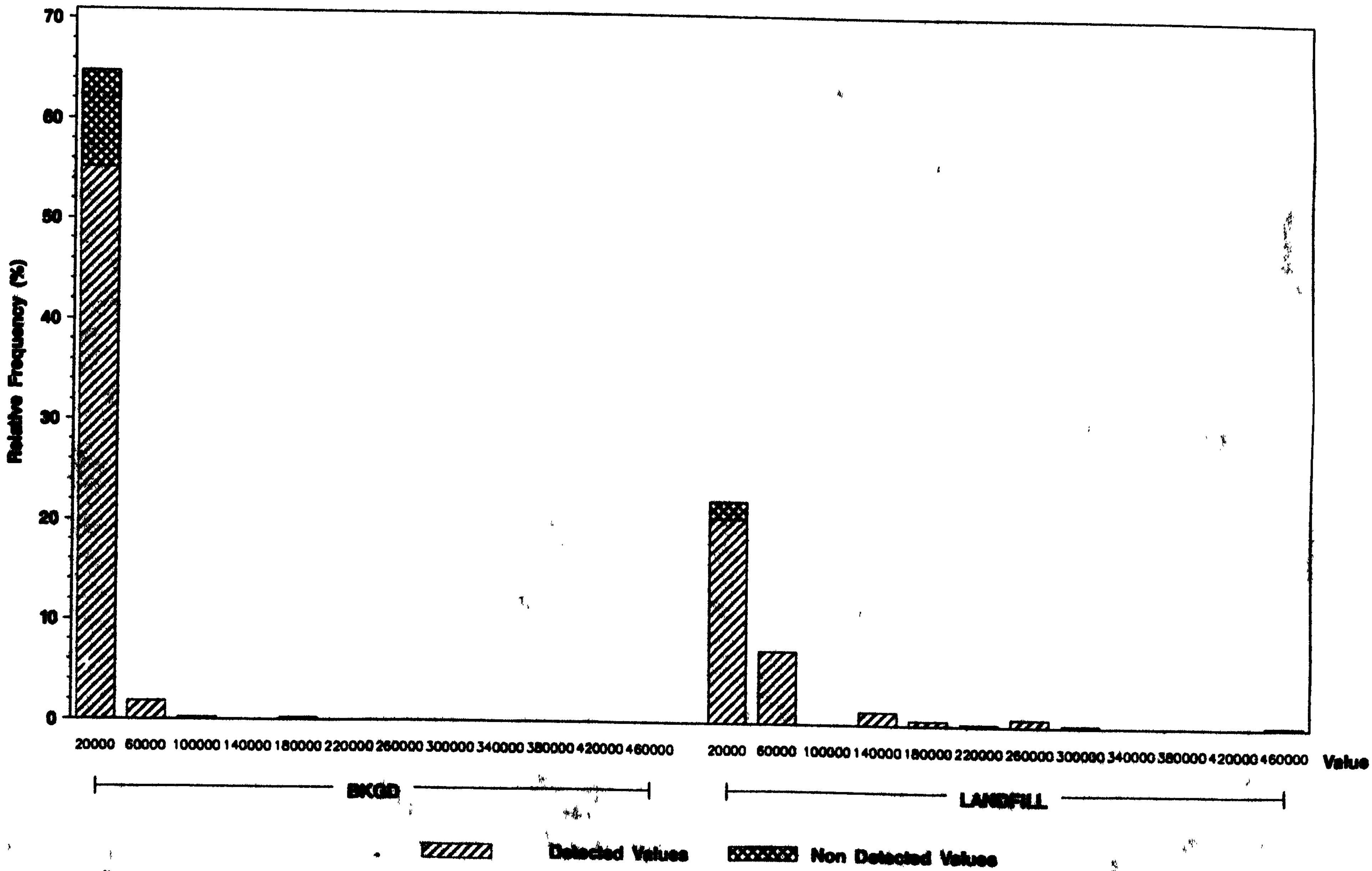
ANALYTE=CHEMICAL OXYGEN DEMAND



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total CHLORIDE (ug/L) In Groundwater

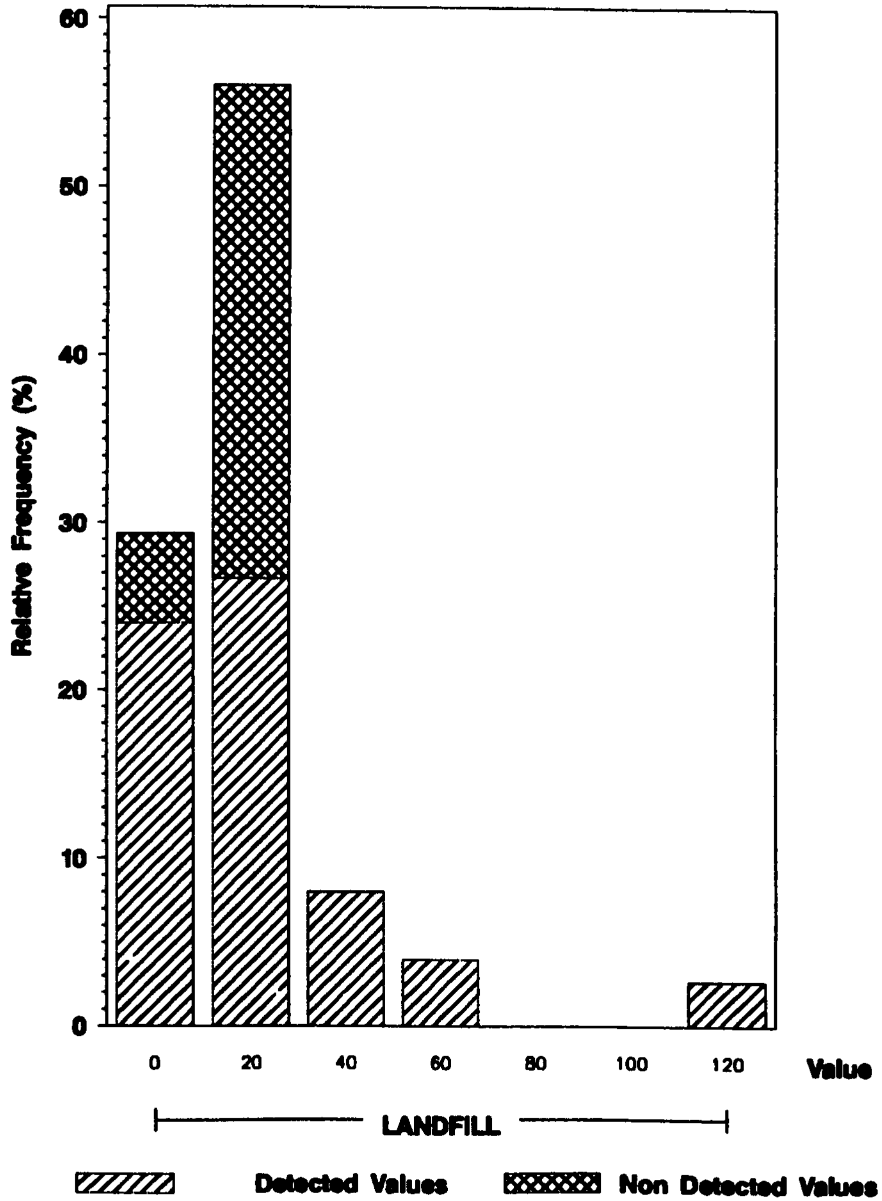
ANALYTE=CHLORIDE



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total CHROMIUM (ug/L) in Groundwater

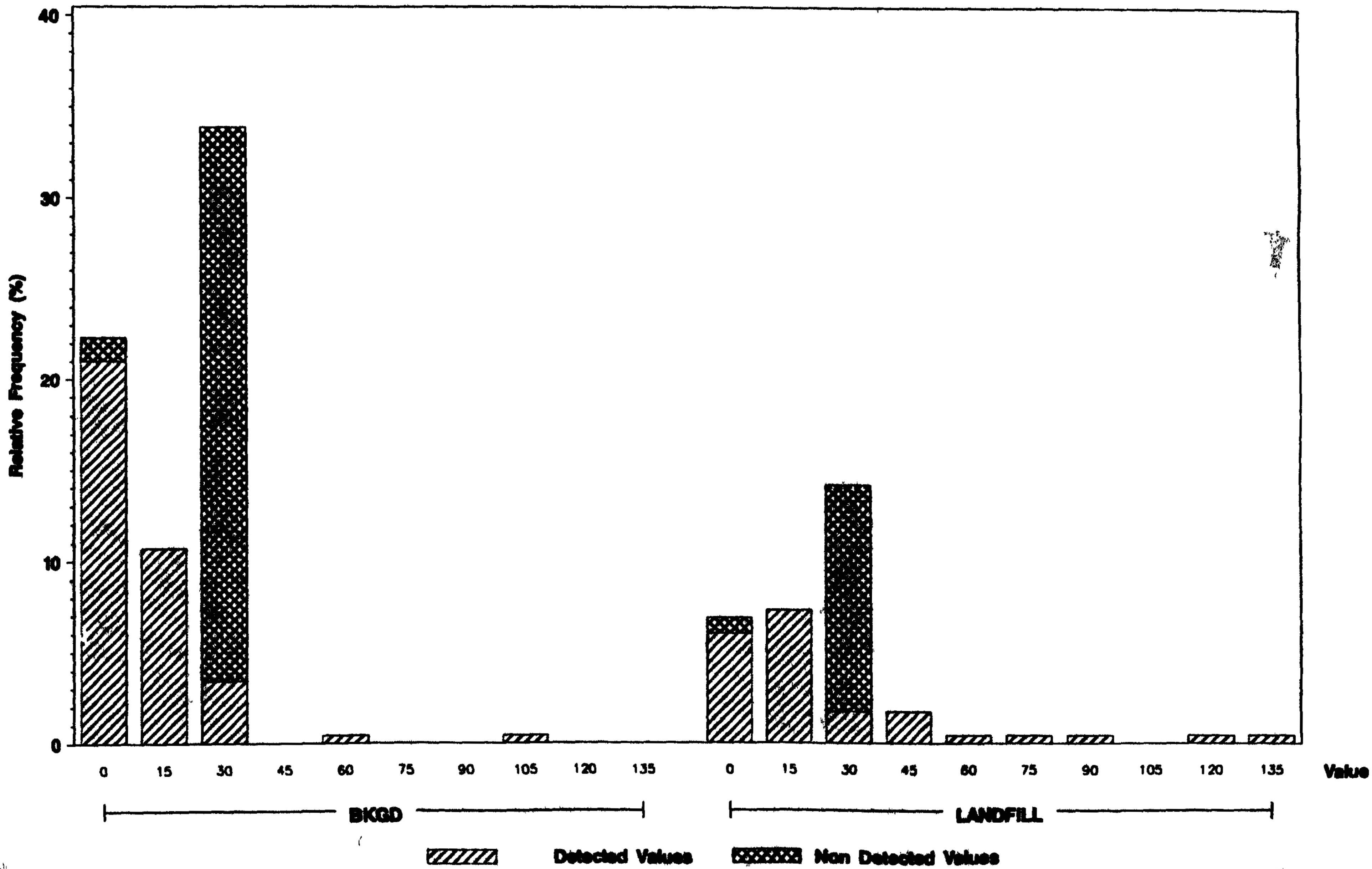
ANALYTE = CHROMIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total COPPER (ug/L) in Groundwater

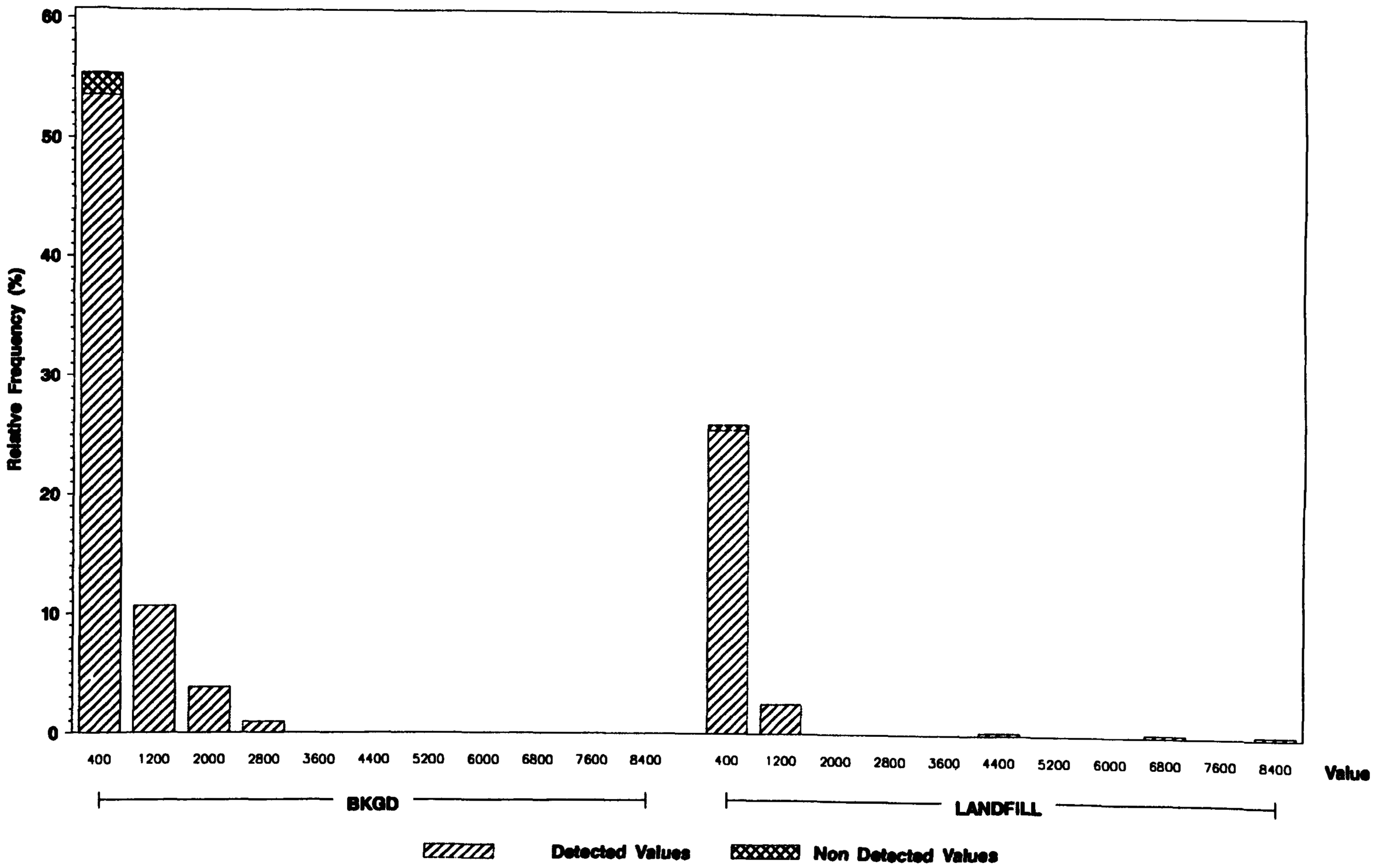
ANALYTE=COPPER



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total FLUORIDE (ug/L) in Groundwater

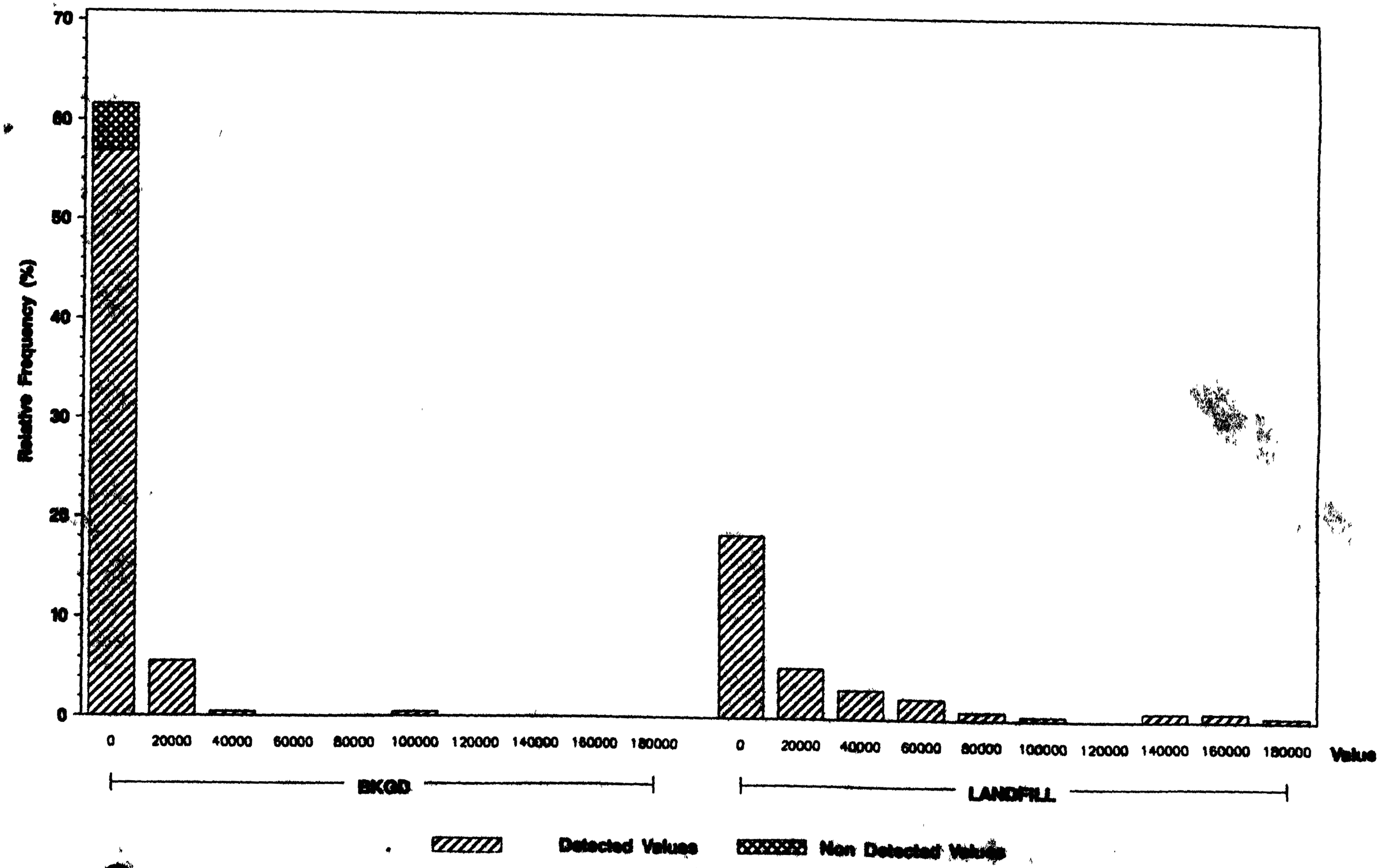
ANALYTE=FLUORIDE



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total IRON (ug/L) in Groundwater

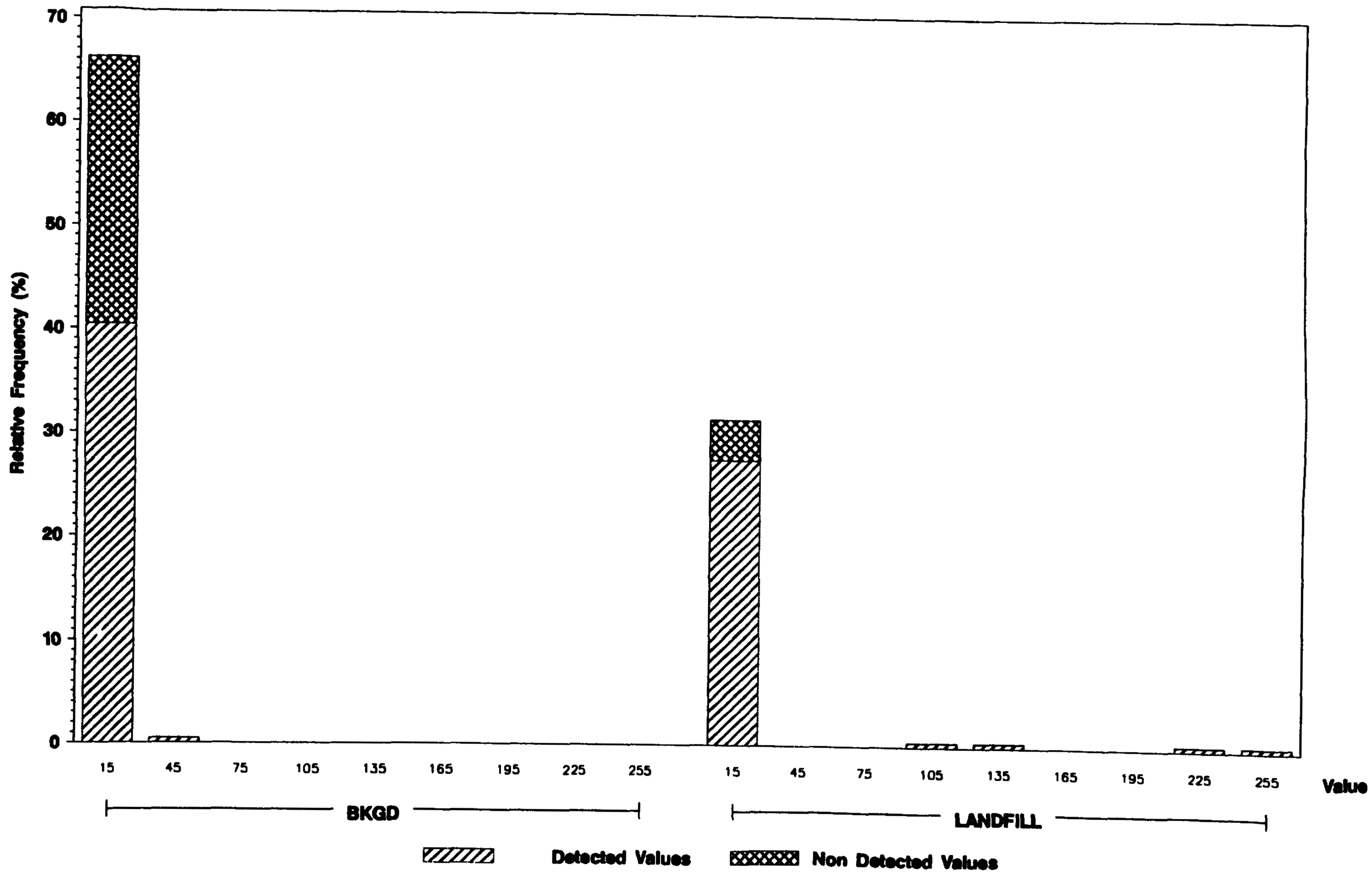
ANALYTE=IRON



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total LEAD (ug/L) in Groundwater

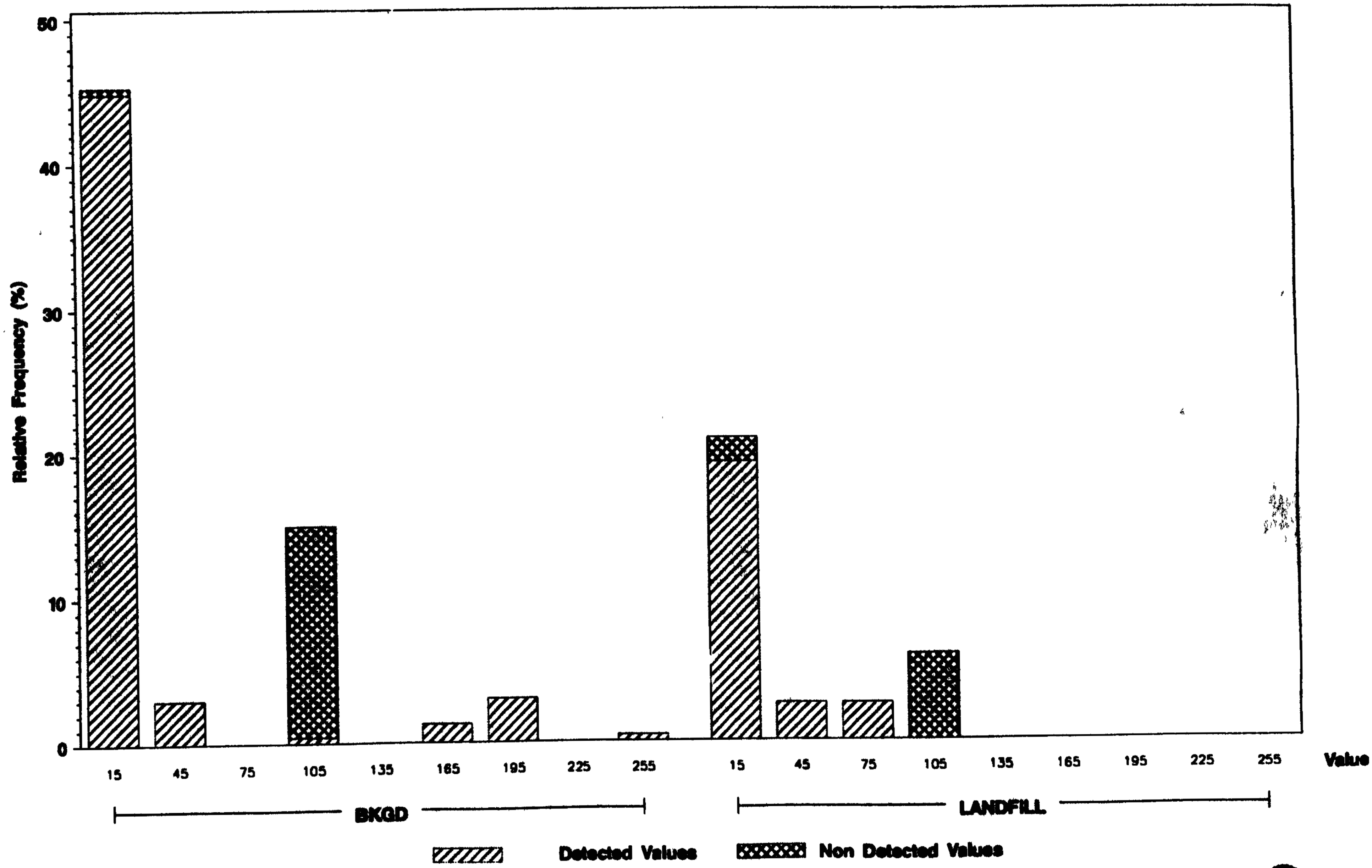
ANALYTE=LEAD



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total LITHIUM (ug/L) in Groundwater

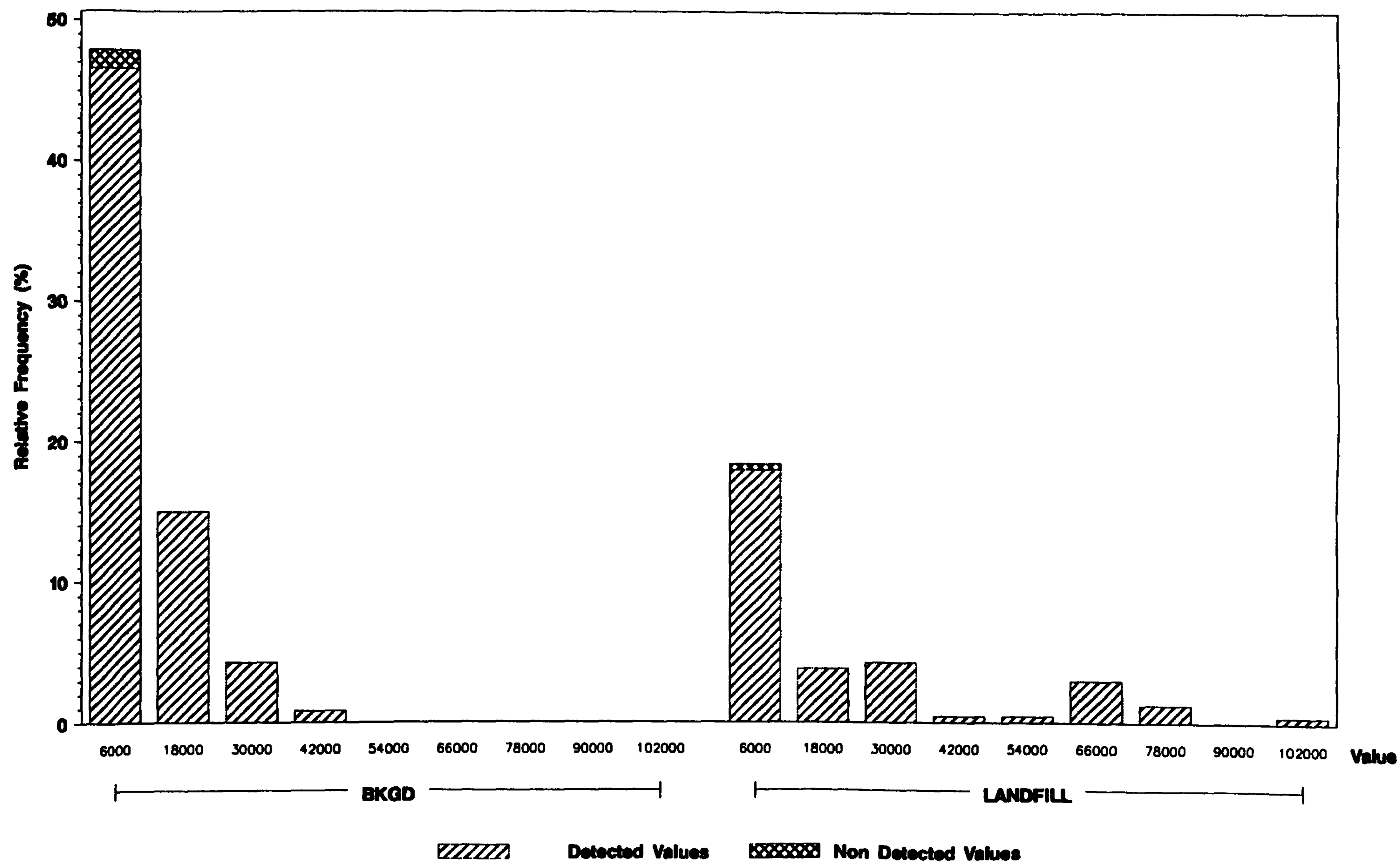
ANALYTE=LITHIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total MAGNESIUM (ug/L) in Groundwater

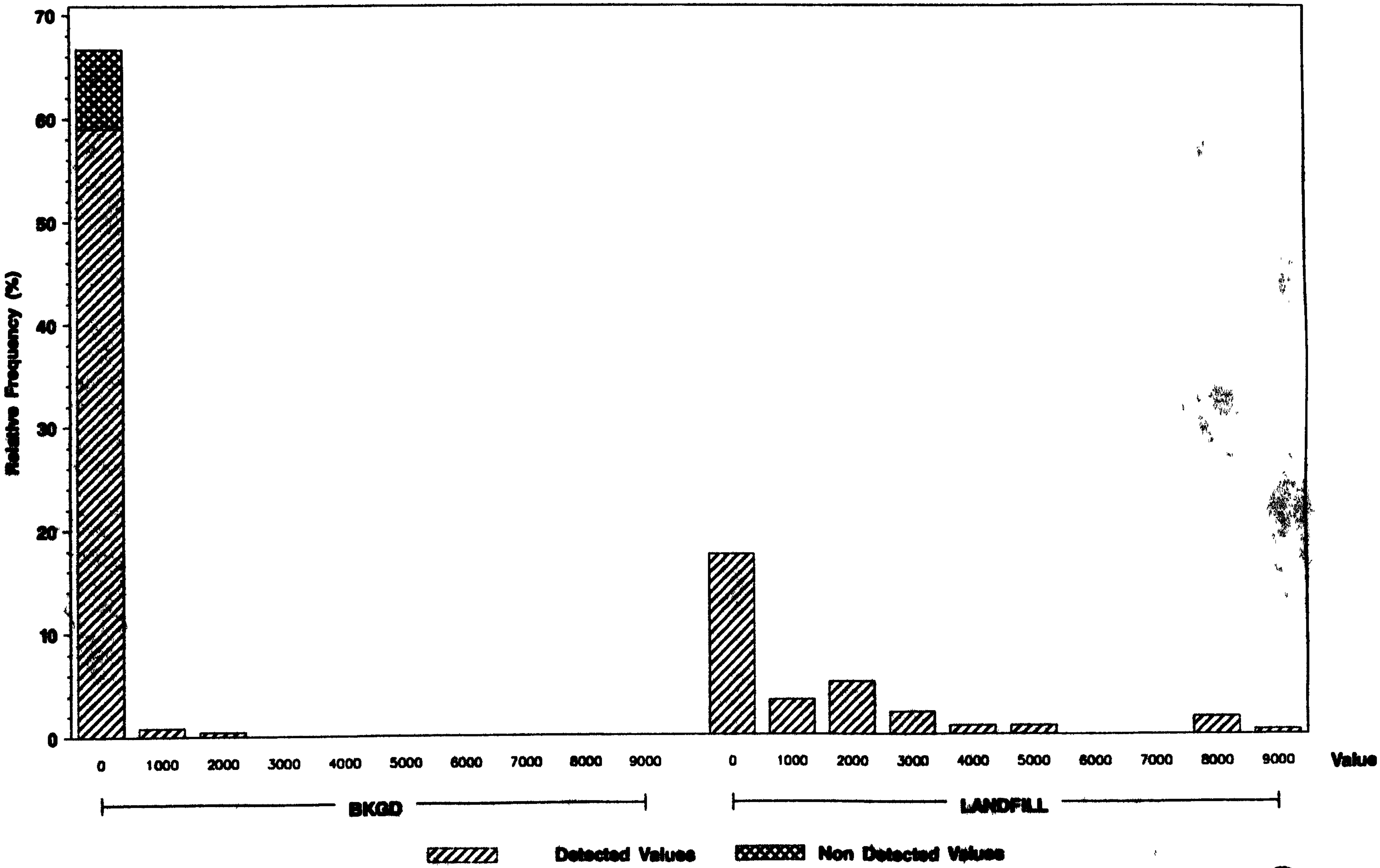
ANALYTE=MAGNESIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total MANGANESE (ug/L) in Groundwater

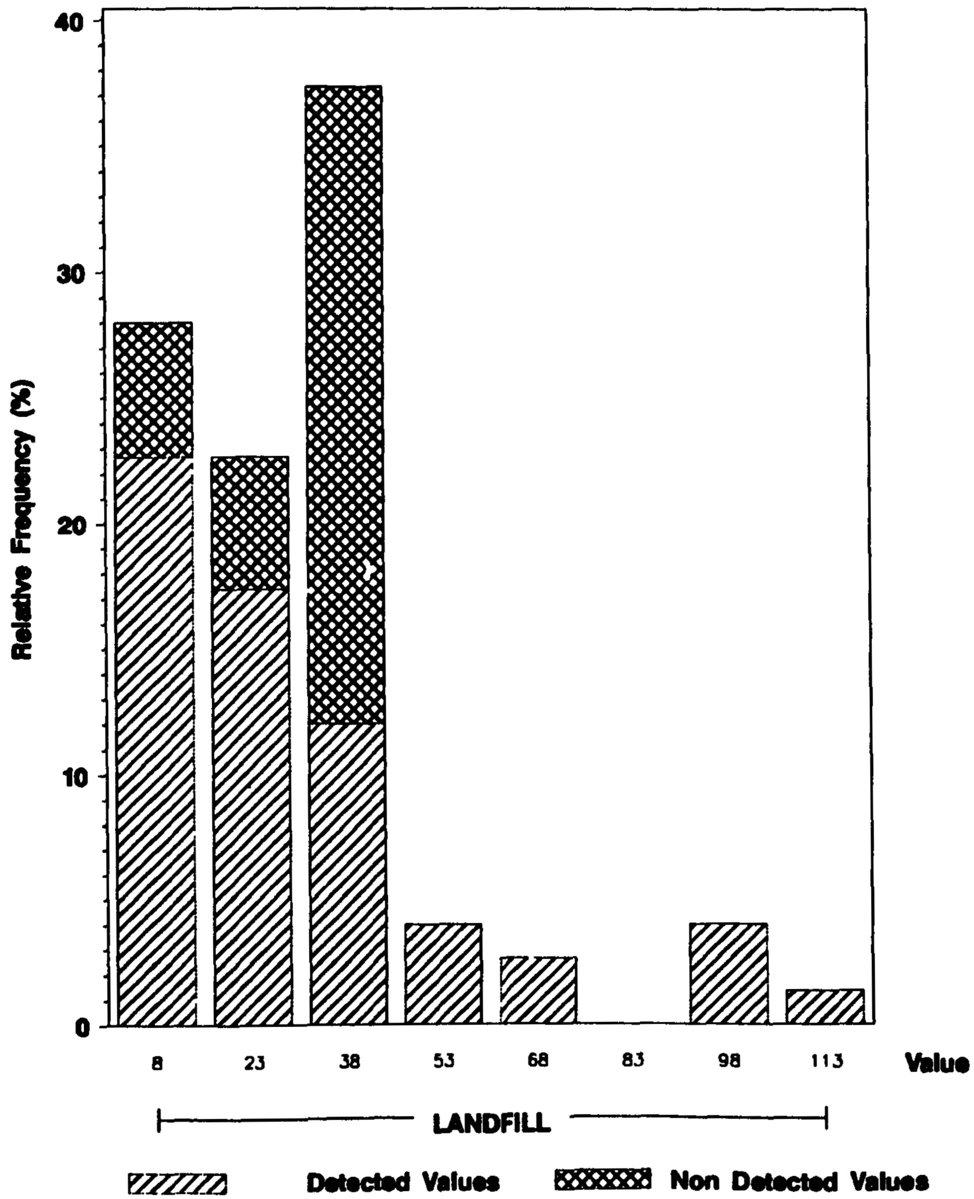
ANALYTE=MANGANESE



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total NICKEL (ug/L) in Groundwater

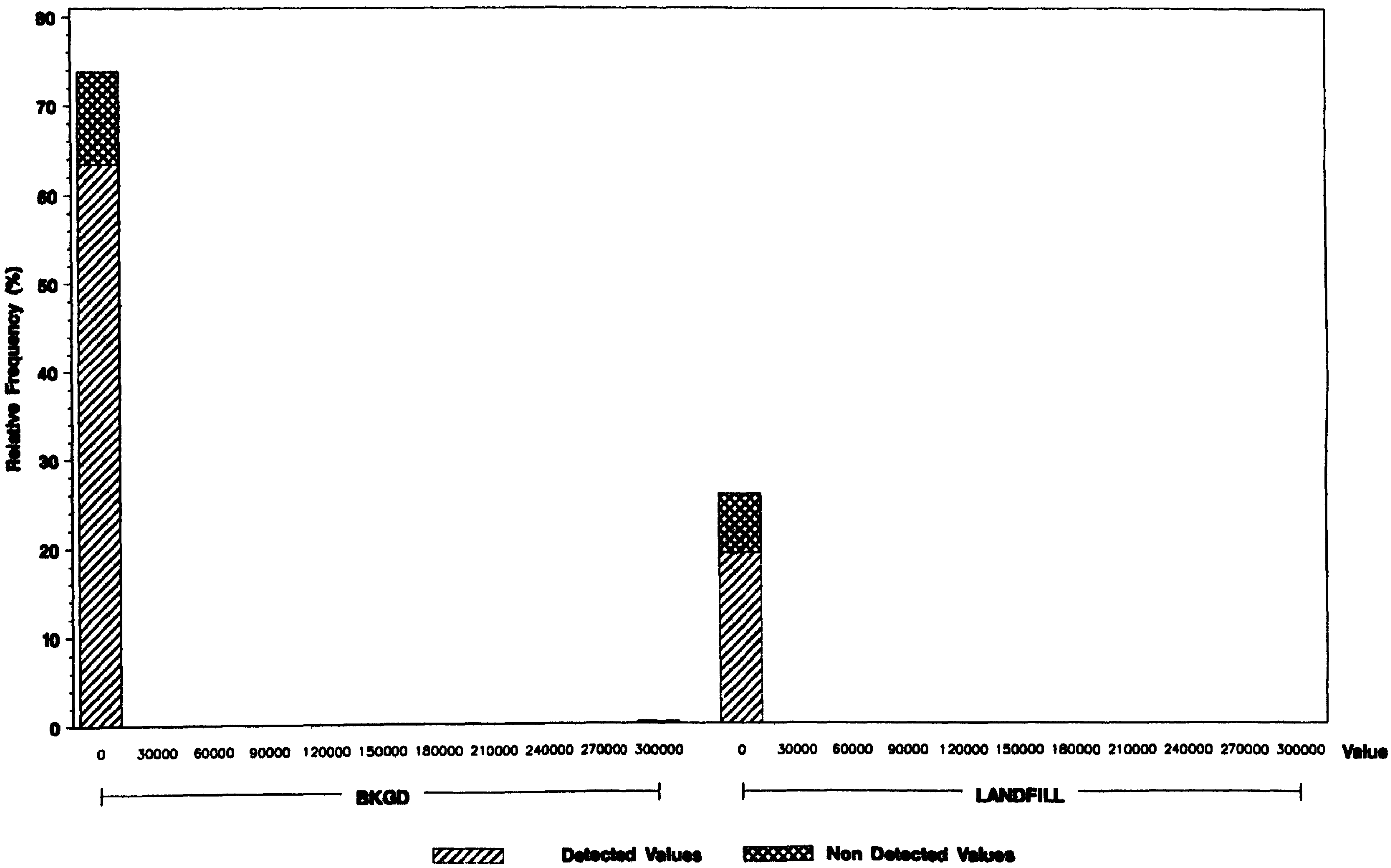
ANALYTE=NICKEL



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total NITRATE/NITRITE (ug/L) in Groundwater

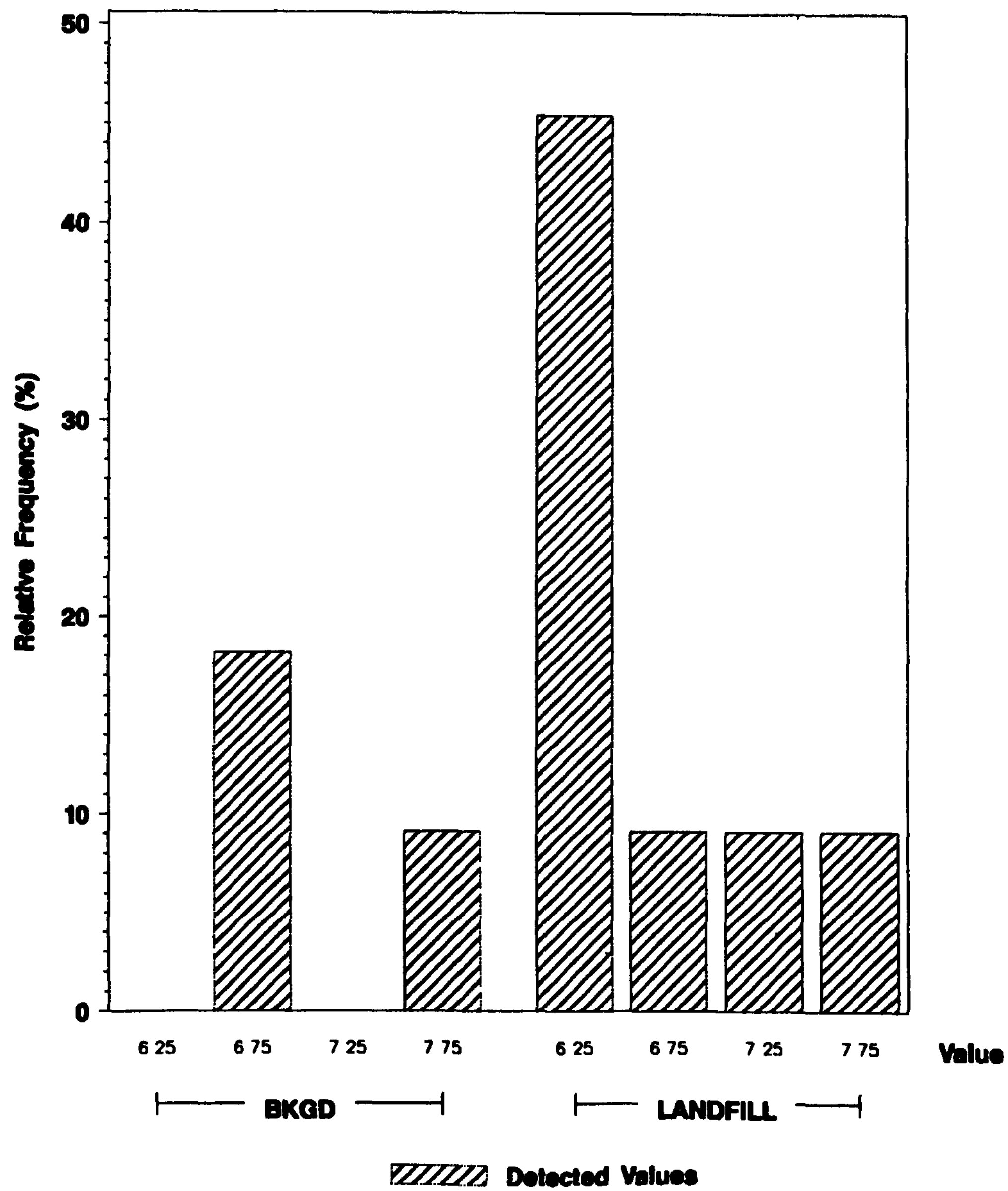
ANALYTE=NITRATE/NITRITE



Background vs Landfill Leachate (UHSU) Frequency Histogram

pH (Standard Units) in Groundwater

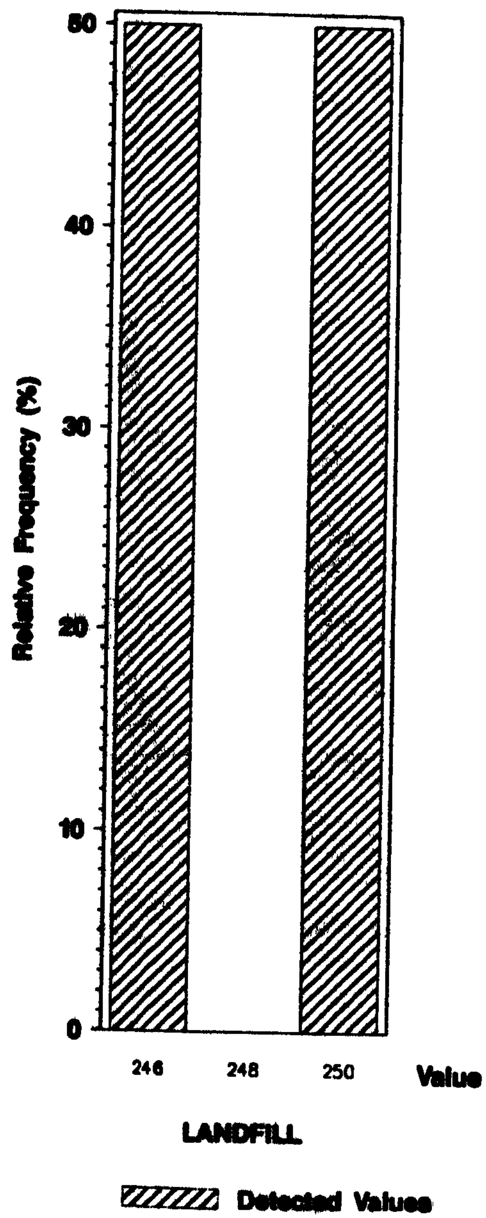
ANALYTE=pH



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total PHOSPHORUS (ug/L) In Groundwater

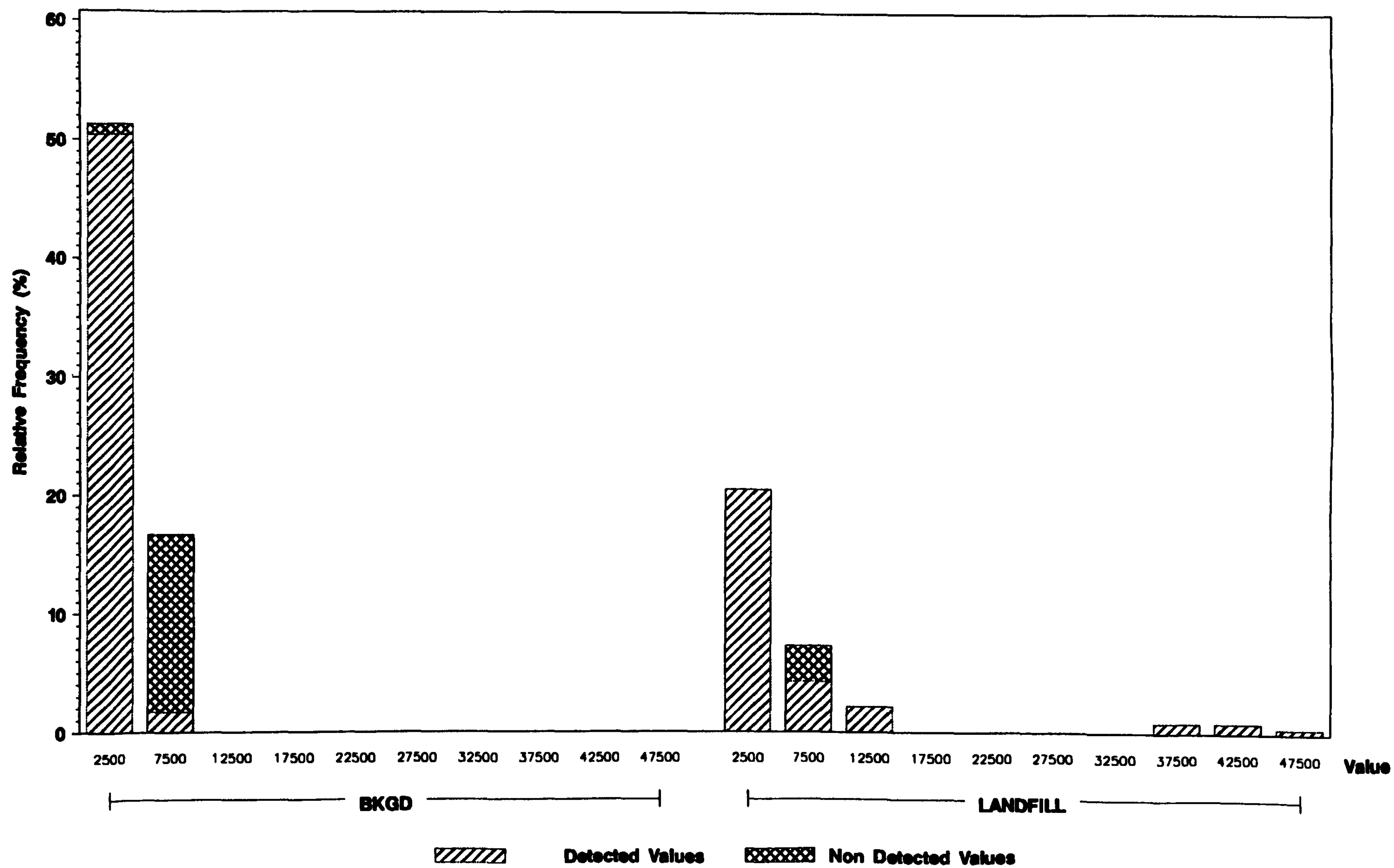
ANALYTE=PHOSPHORUS



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total POTASSIUM (ug/L) in Groundwater

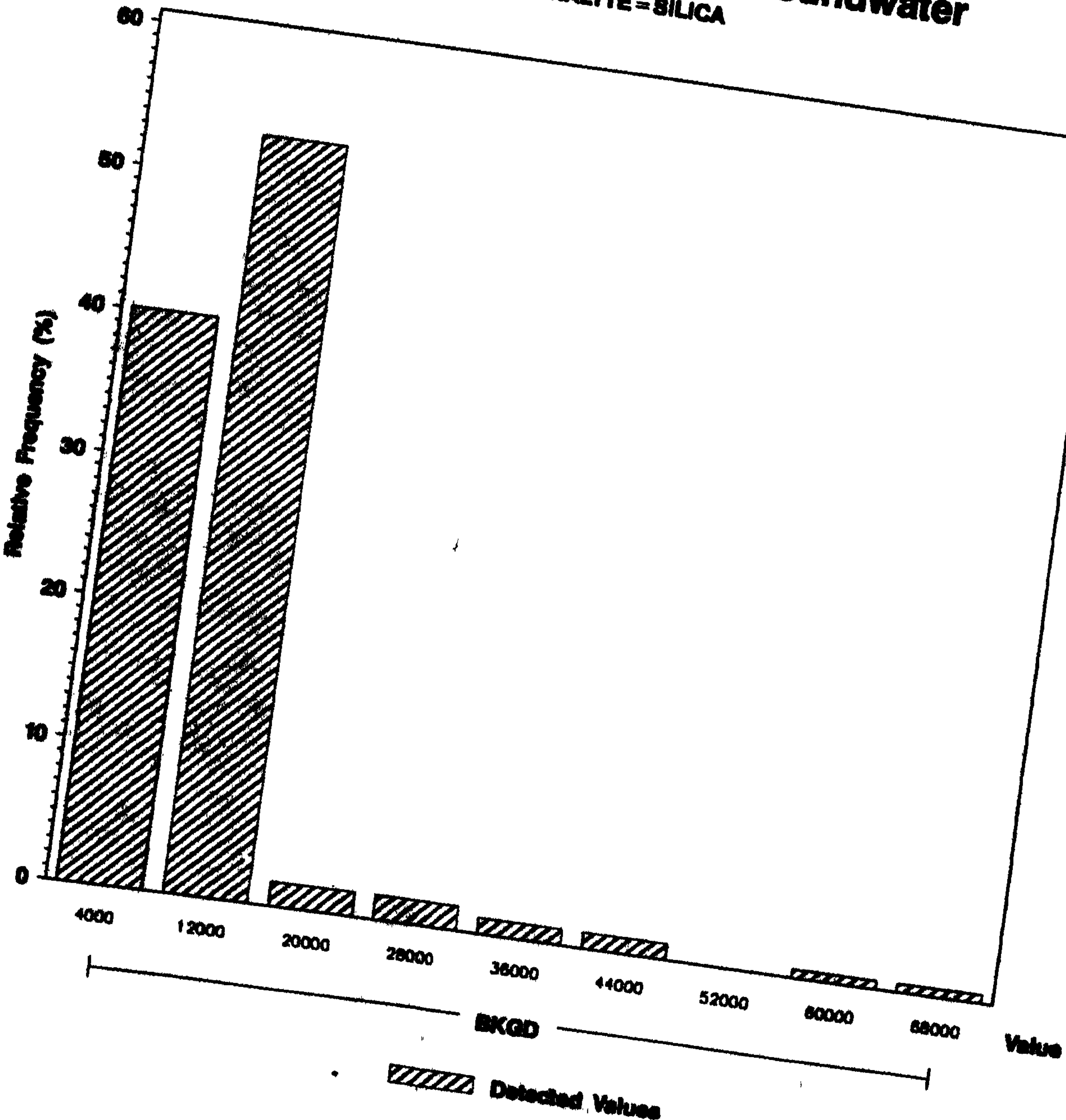
ANALYTE=POTASSIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total SILICA (ug/L) in Groundwater

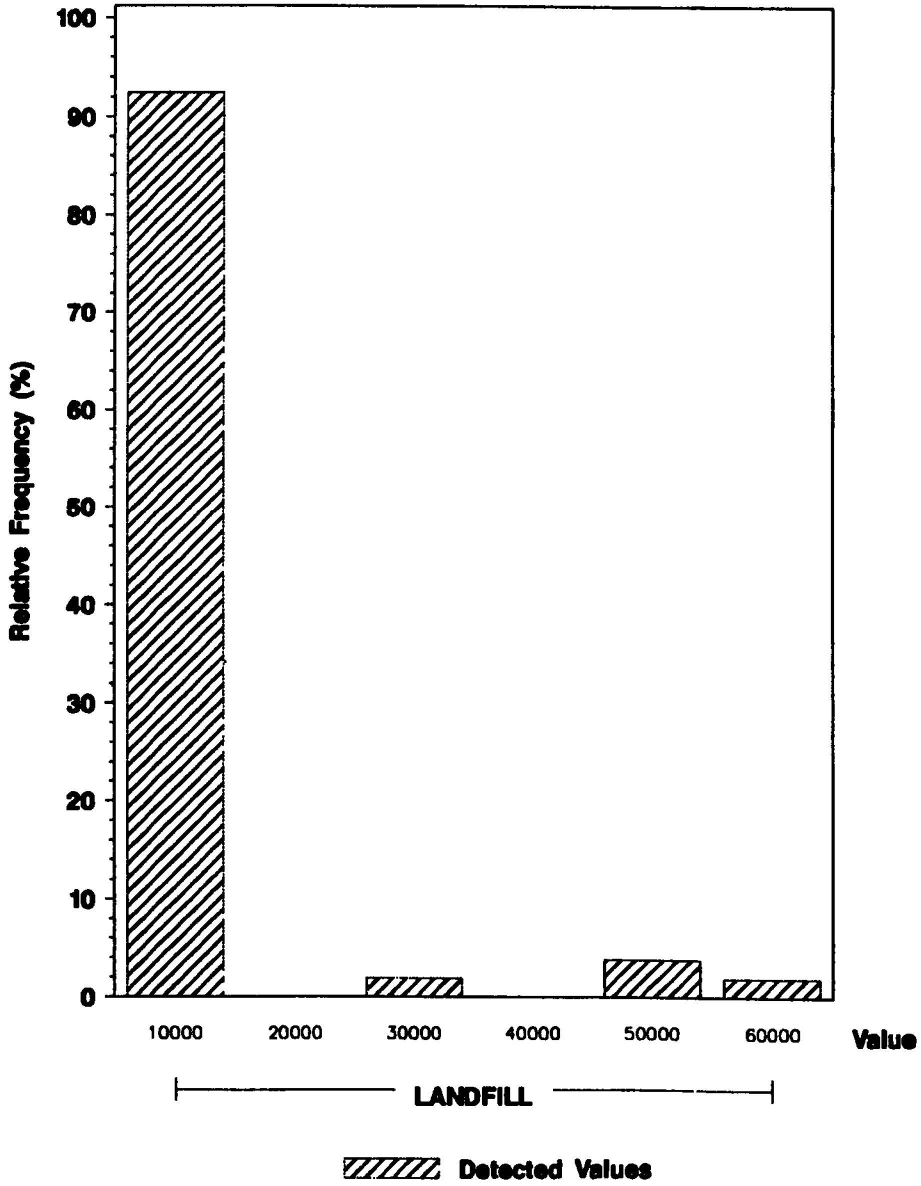
ANALYTE=SILICA



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total SILICA, DISSOLVED (ug/L) in Groundwater

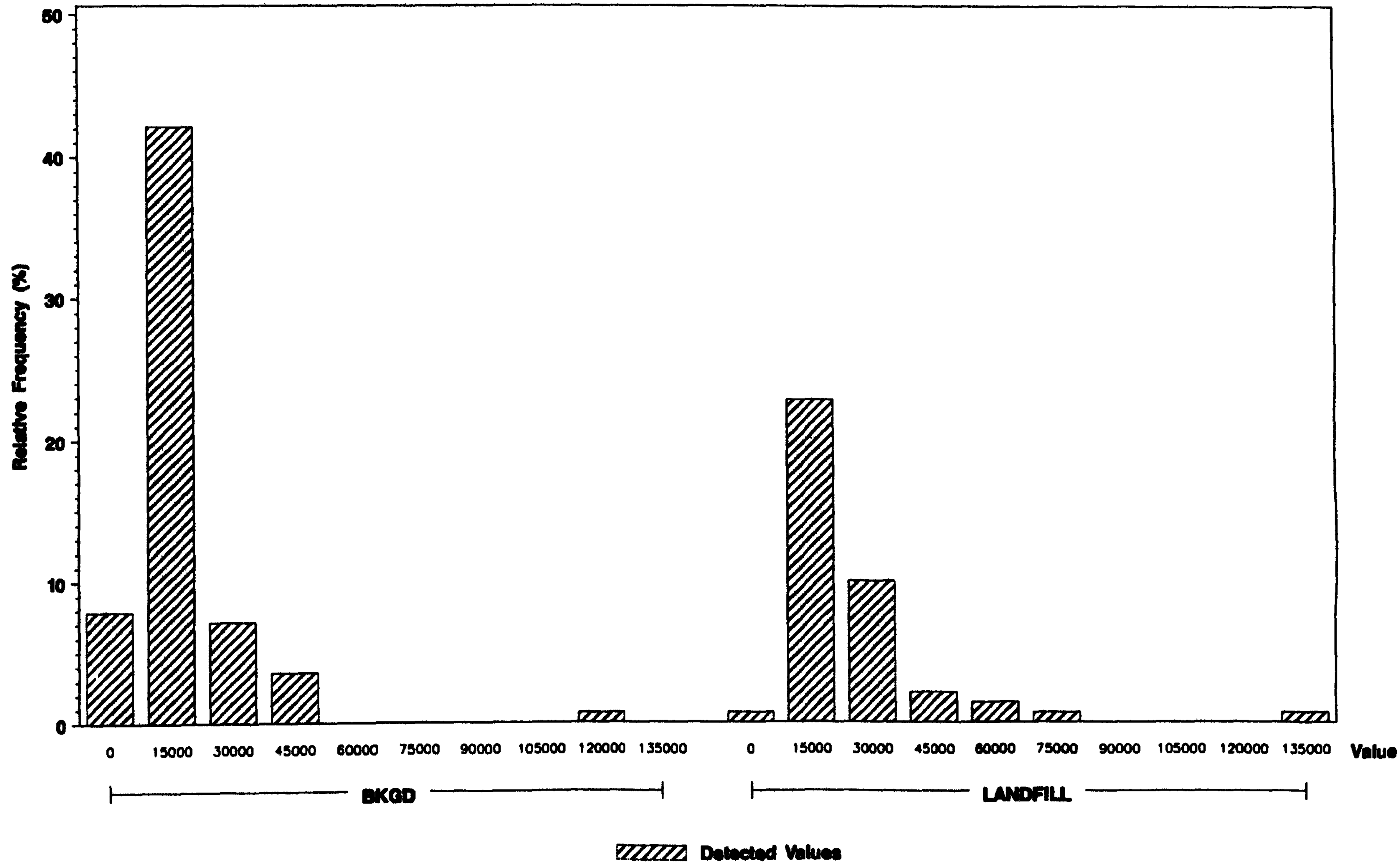
ANALYTE = SILICA, DISSOLVED



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total SILICON (ug/L) in Groundwater

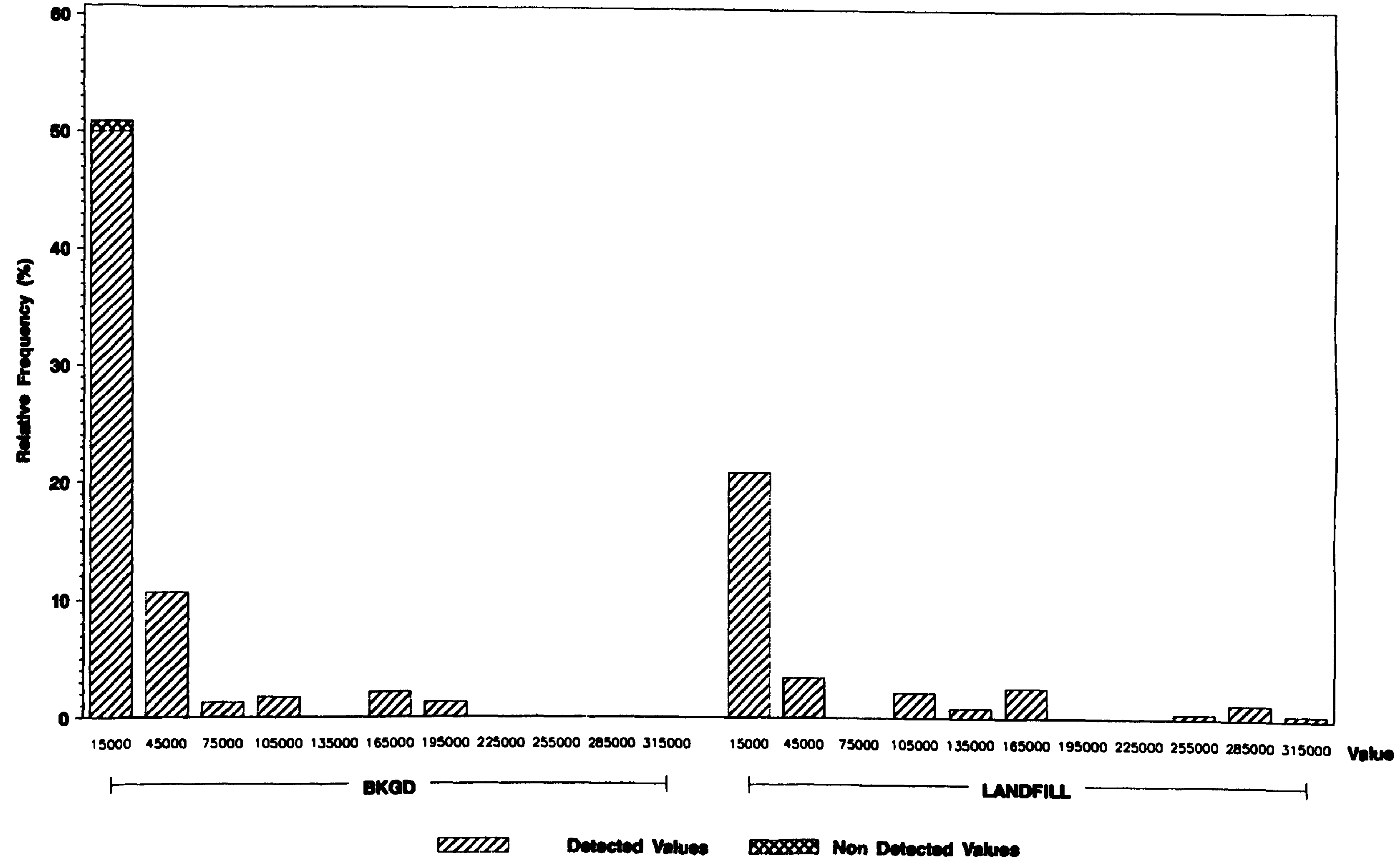
ANALYTE=SILICON



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total SODIUM (ug/L) in Groundwater

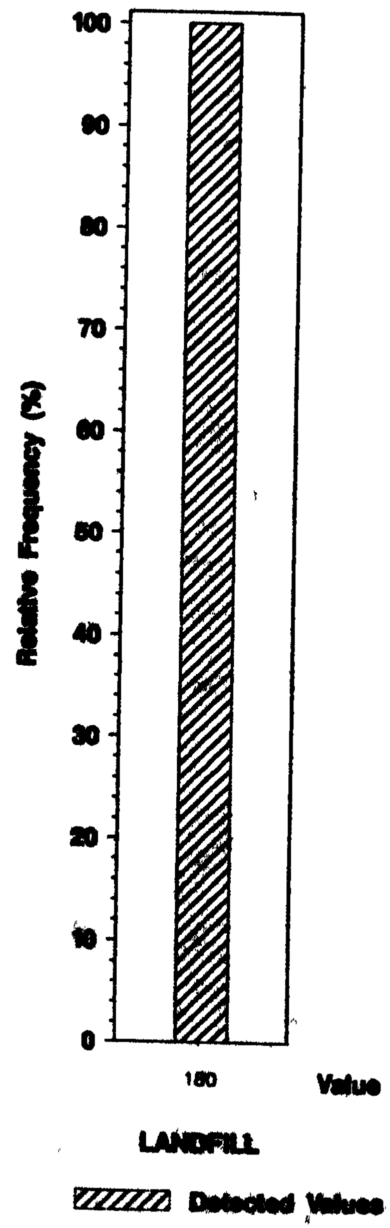
ANALYTE=SODIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total SODIUM FLUORIDE (ug/L) in Groundwater

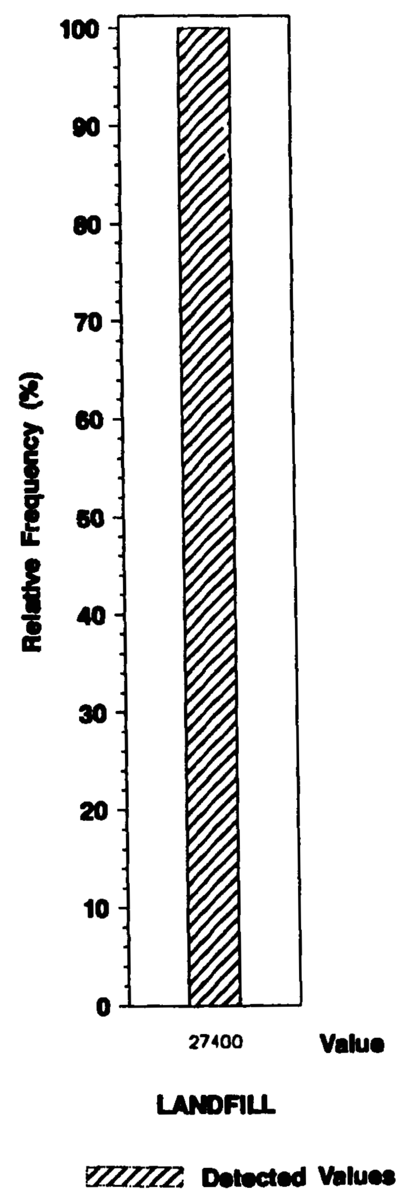
ANALYTE=SODIUM FLUORIDE



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total SODIUM SULFATE (ug/L) In Groundwater

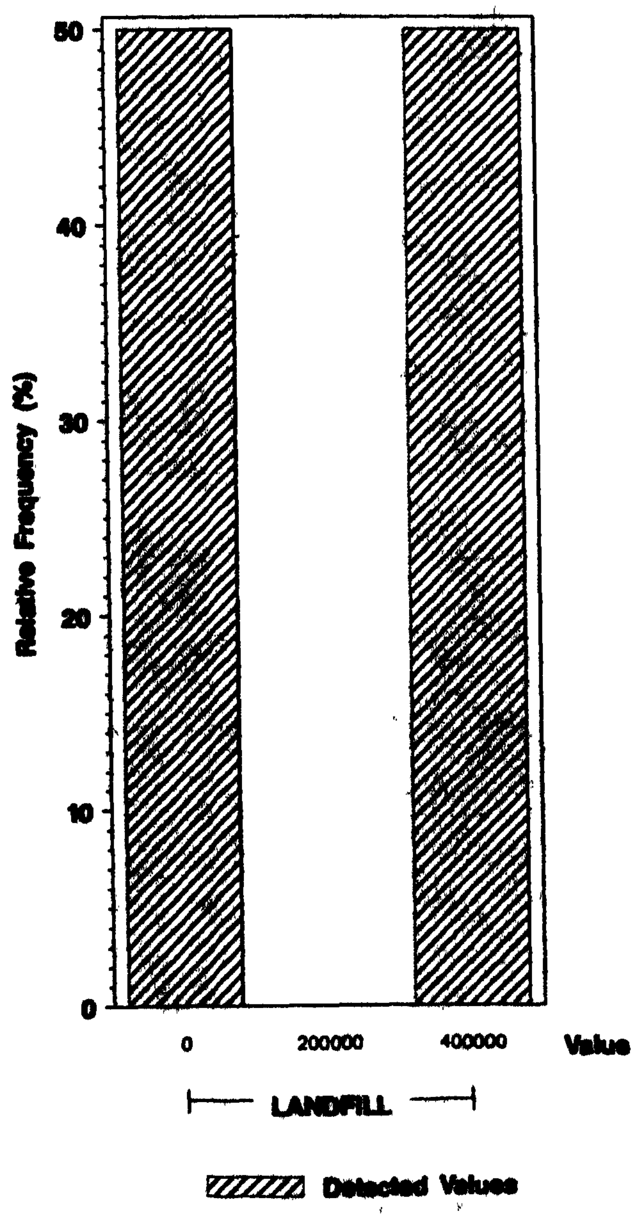
ANALYTE=SODIUM SULFATE



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total SOLIDS, NONVOLATILE SUSPENDED (ug/L) In Groundwater

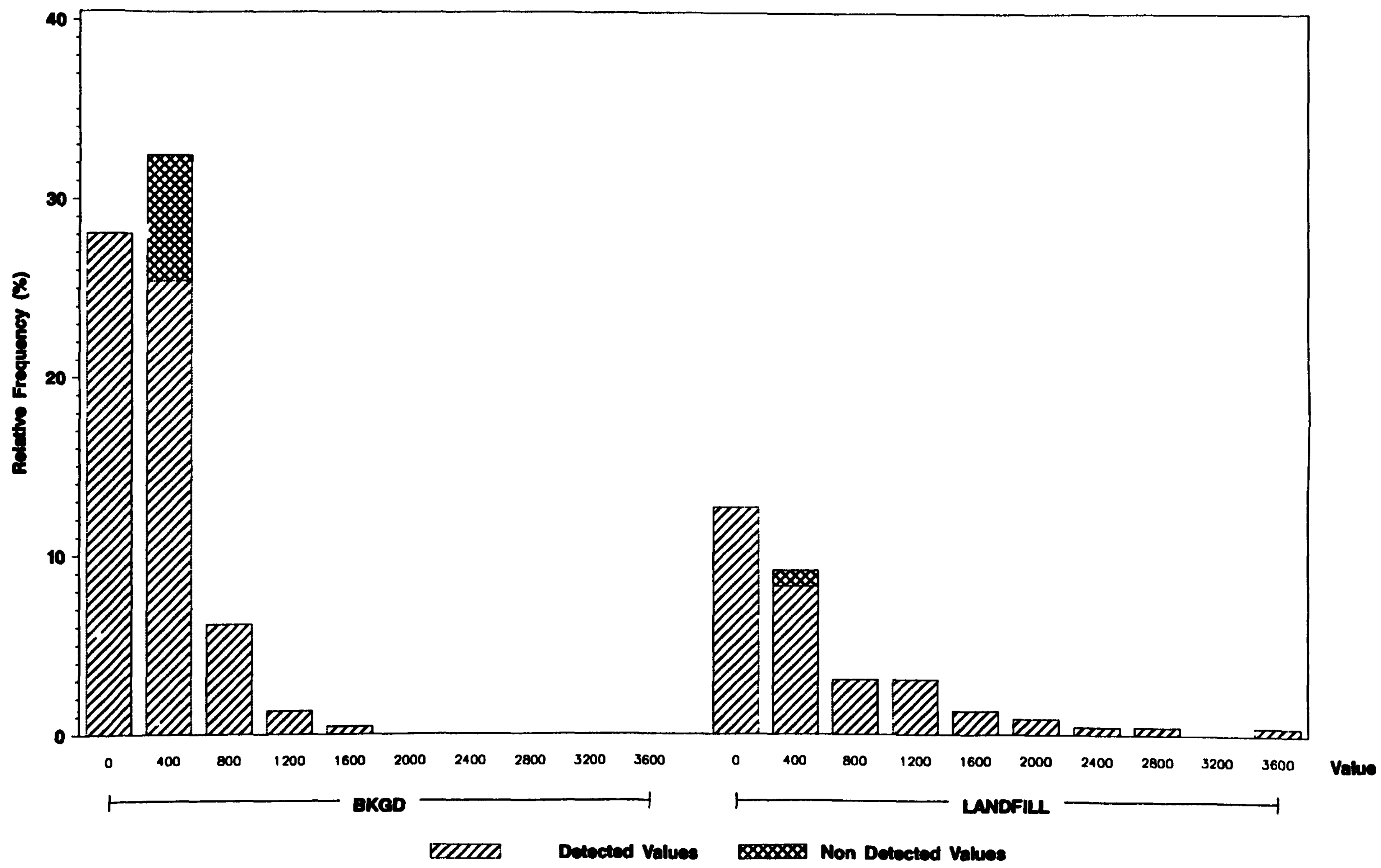
ANALYTE=SOLIDS, NONVOLATILE SUSPENDED



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total STRONTIUM (ug/L) in Groundwater

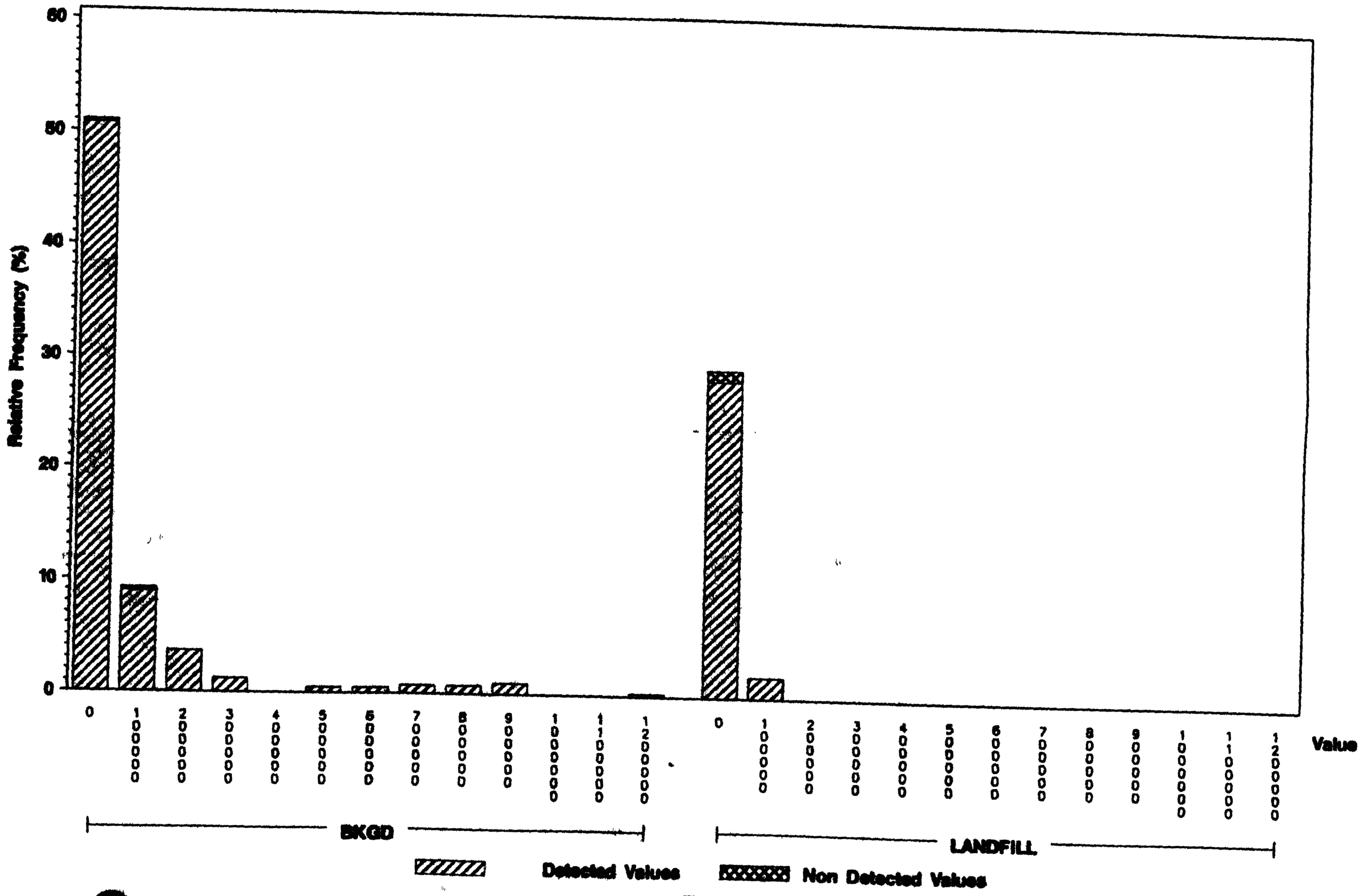
ANALYTE=STRONTIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total SULFATE (ug/L) In Groundwater

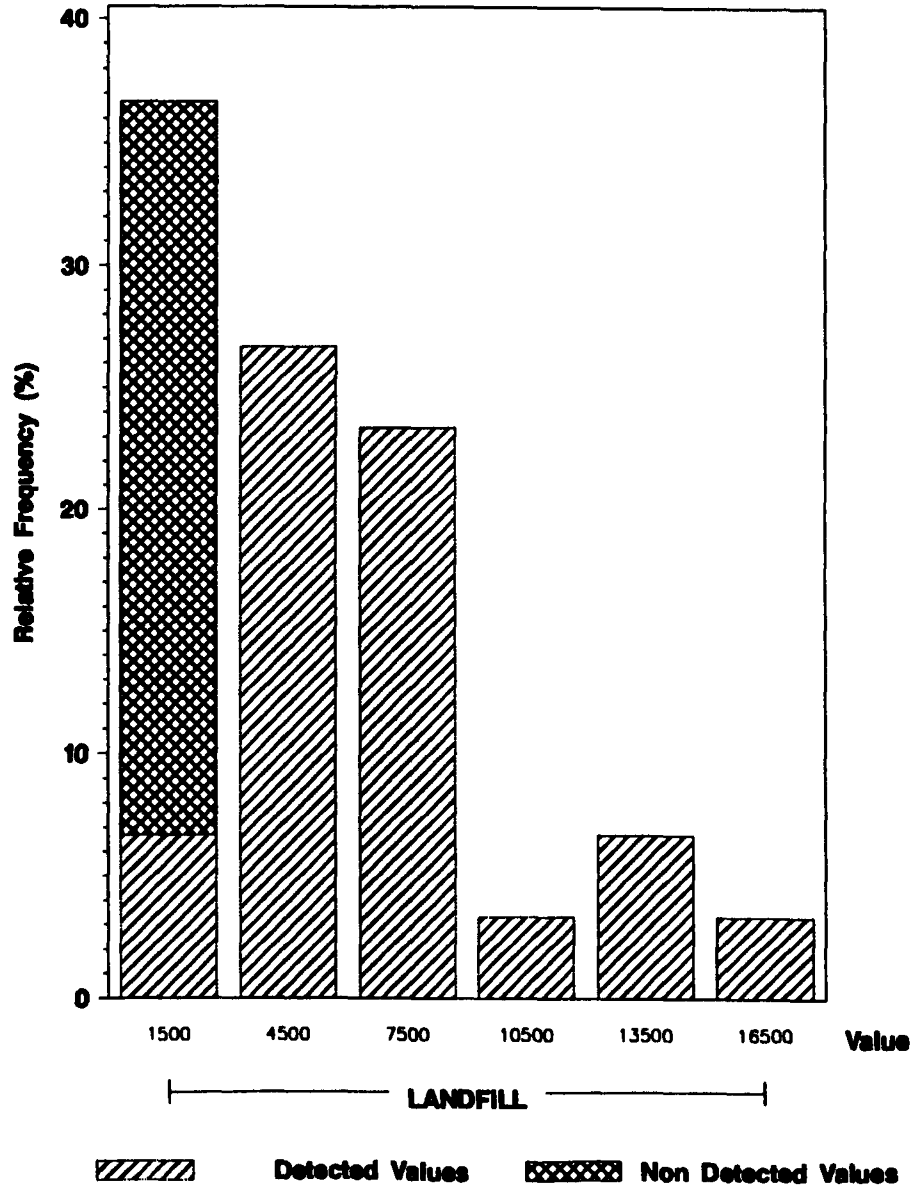
ANALYTE=SULFATE



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total SULFIDE (ug/L) in Groundwater

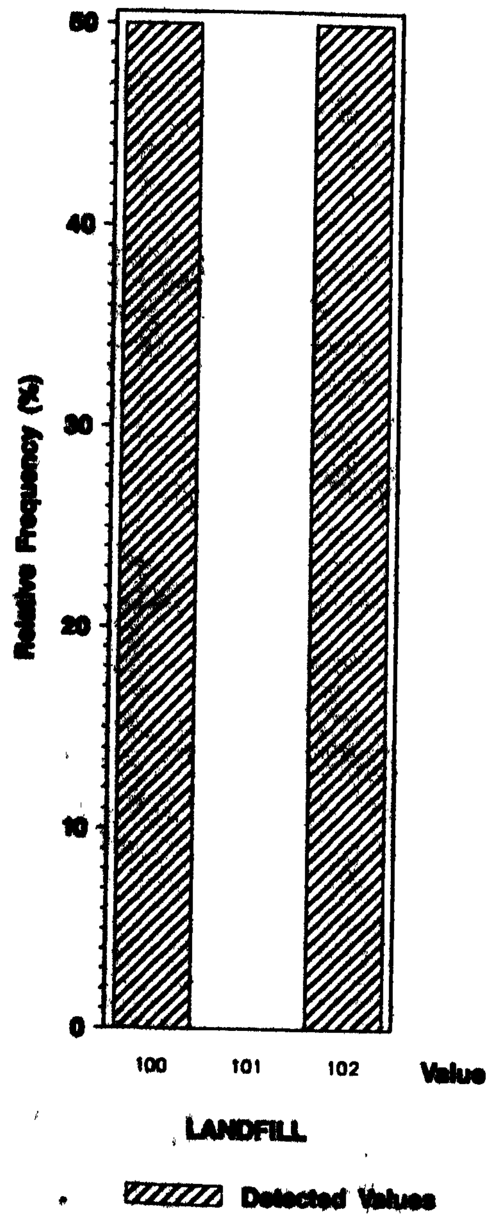
ANALYTE=SULFIDE



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total TOLUENE – D8 (ug/L) in Groundwater

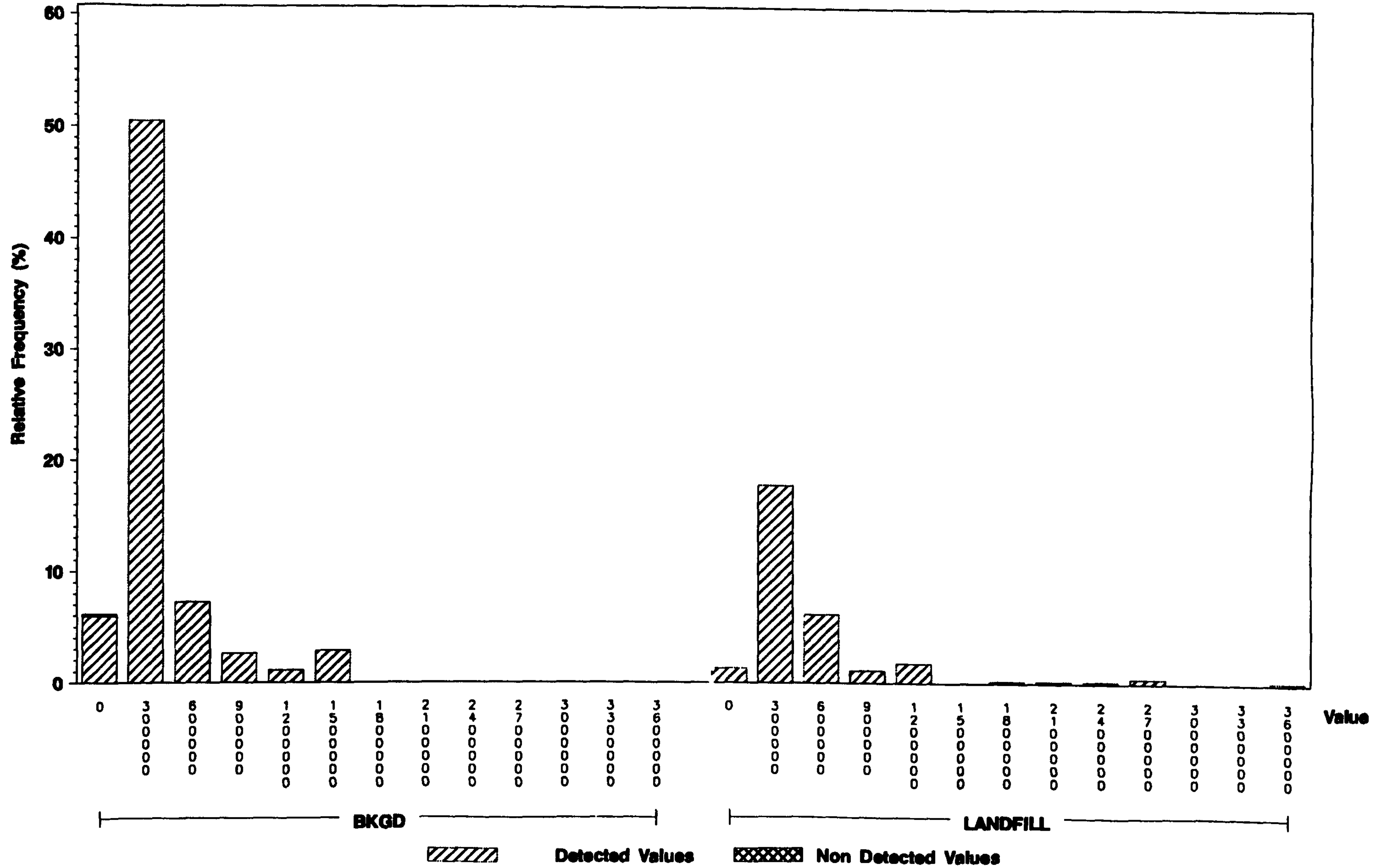
ANALYTE = TOLUENE – D8



Background vs Landfill Leachate (UHSU) Frequency Histogram

TOTAL DISSOLVED SOLIDS (ug/L) in Groundwater

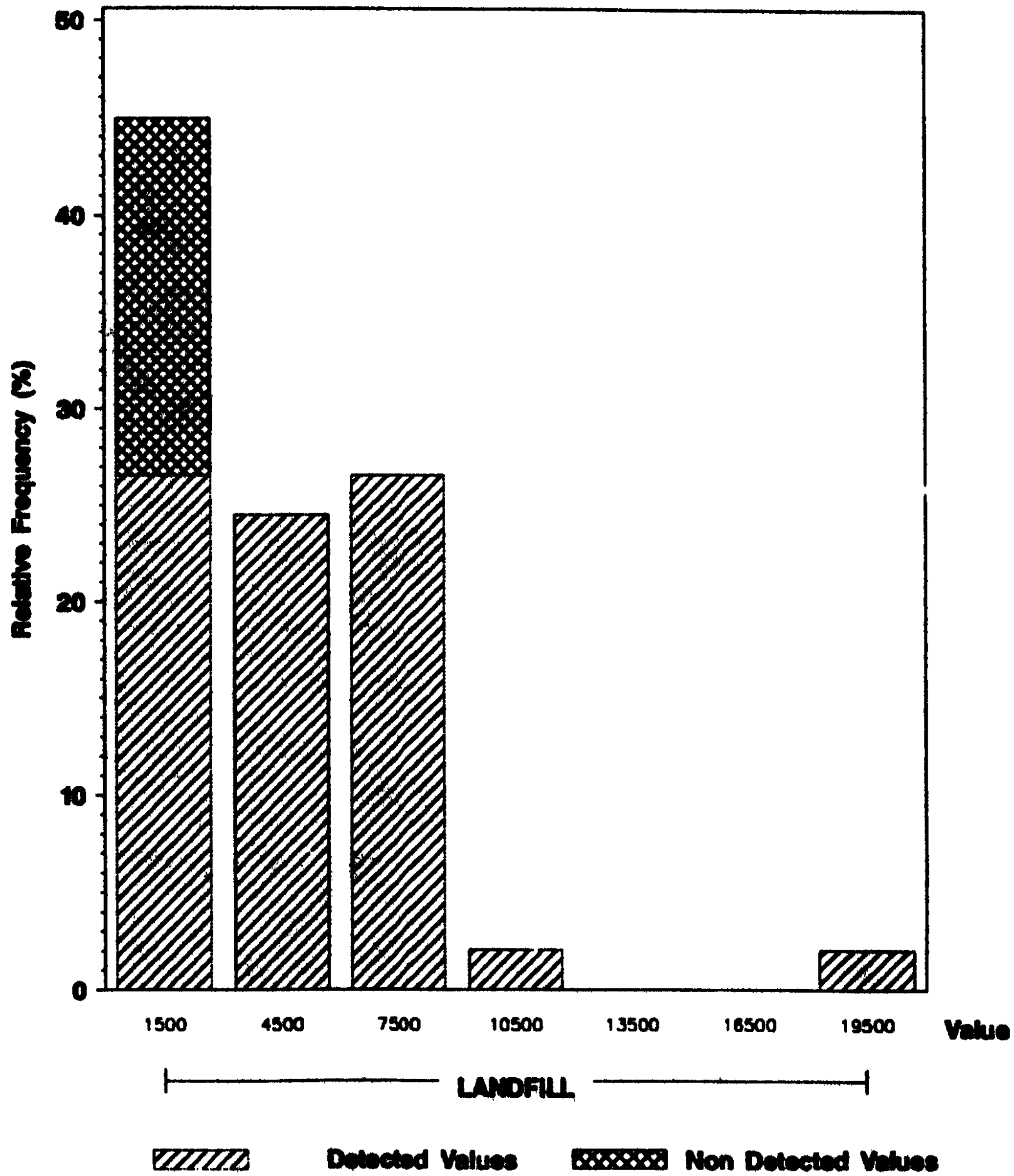
ANALYTE=TOTAL DISSOLVED SOLIDS



Background vs Landfill Leachate (UHSU) Frequency Histogram

TOTAL ORGANIC CARBON (ug/L) in Groundwater

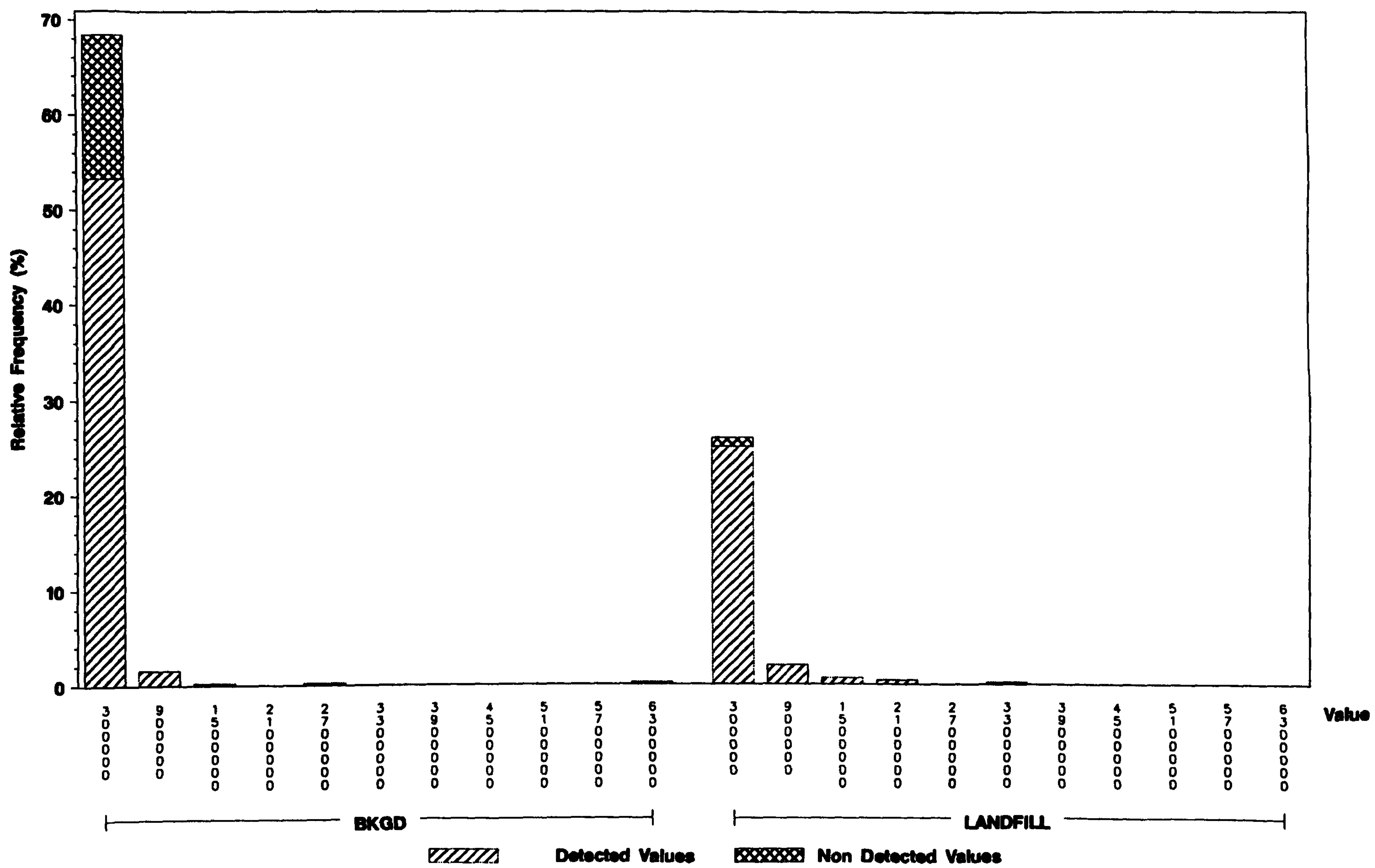
ANALYTE=TOTAL ORGANIC CARBON



Background vs Landfill Leachate (UHSU) Frequency Histogram

TOTAL SUSPENDED SOLIDS (ug/L) in Groundwater

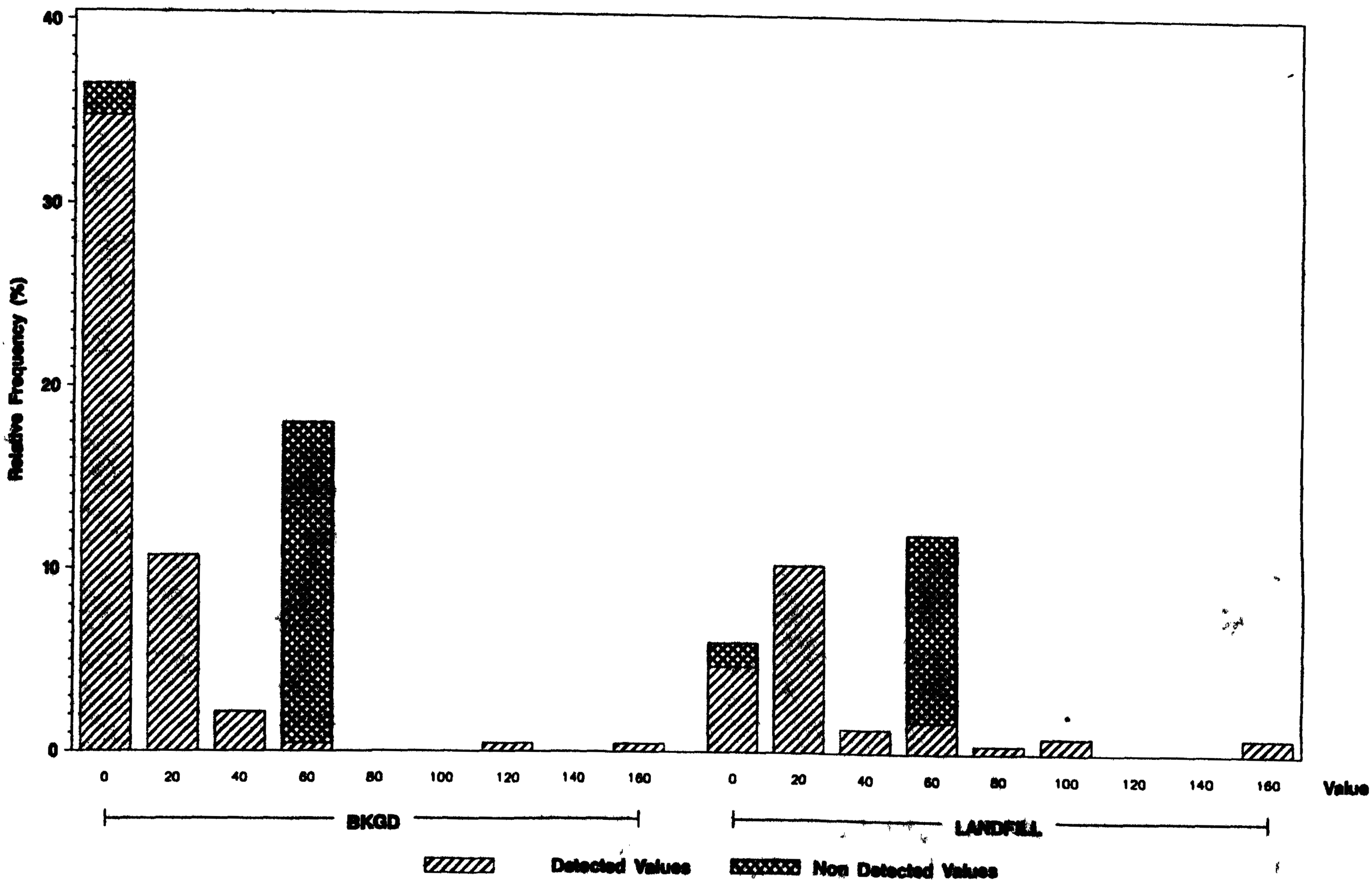
ANALYTE=TOTAL SUSPENDED SOLIDS



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total VANADIUM (ug/L) in Groundwater

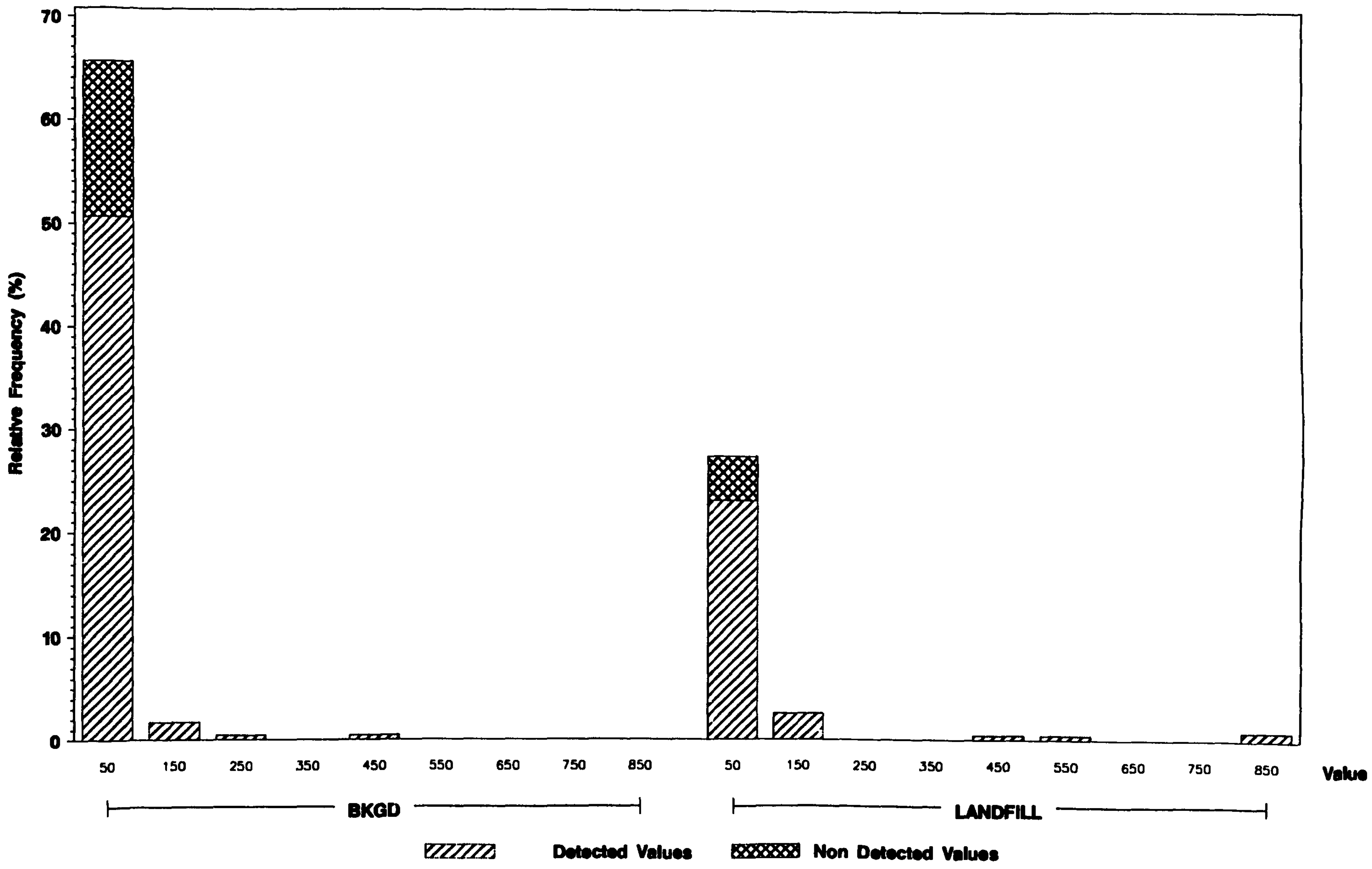
ANALYTE=VANADIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total ZINC (ug/L) in Groundwater

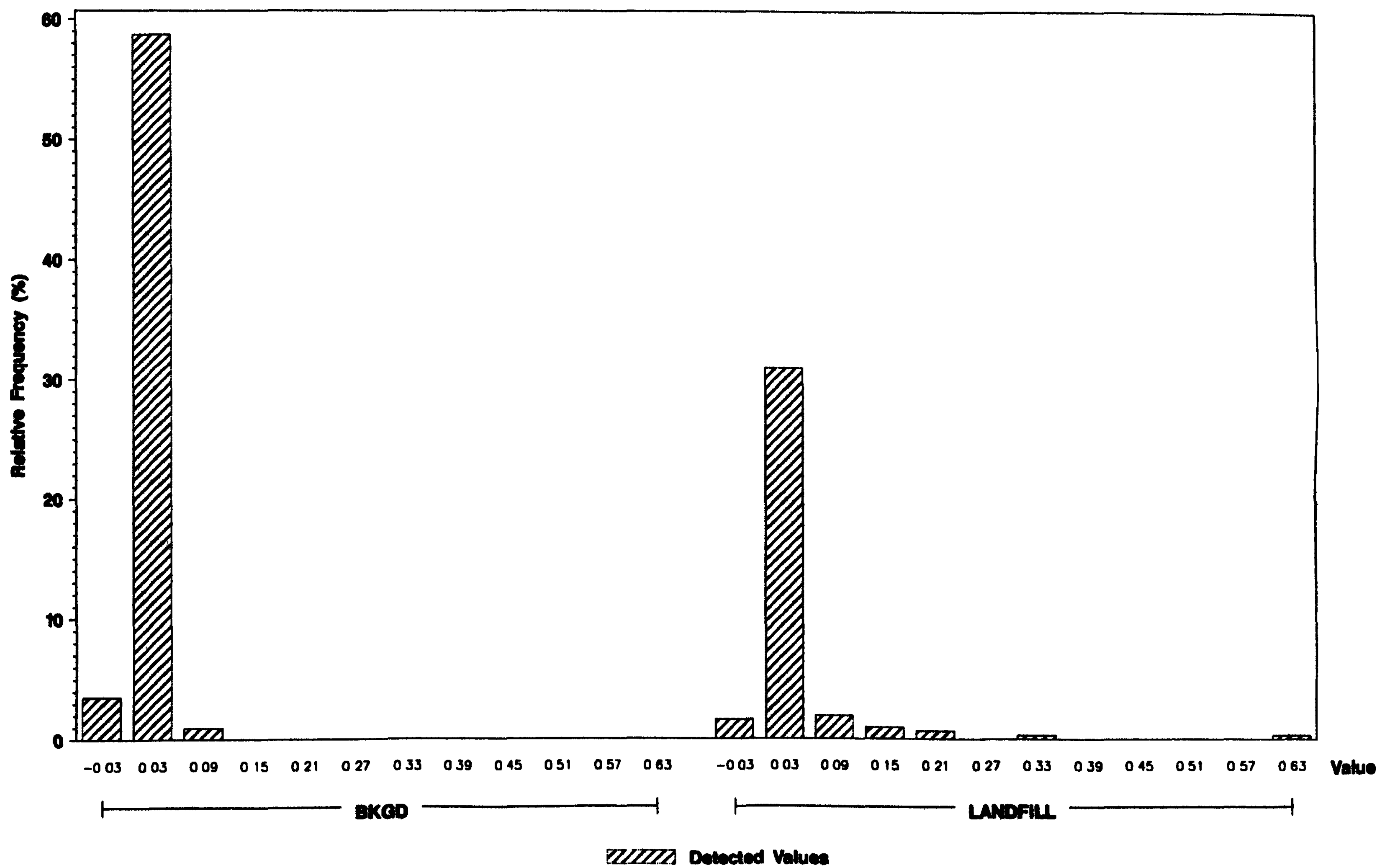
ANALYTE=ZINC



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total AMERICIUM - 241 (pCi/L) in Groundwater

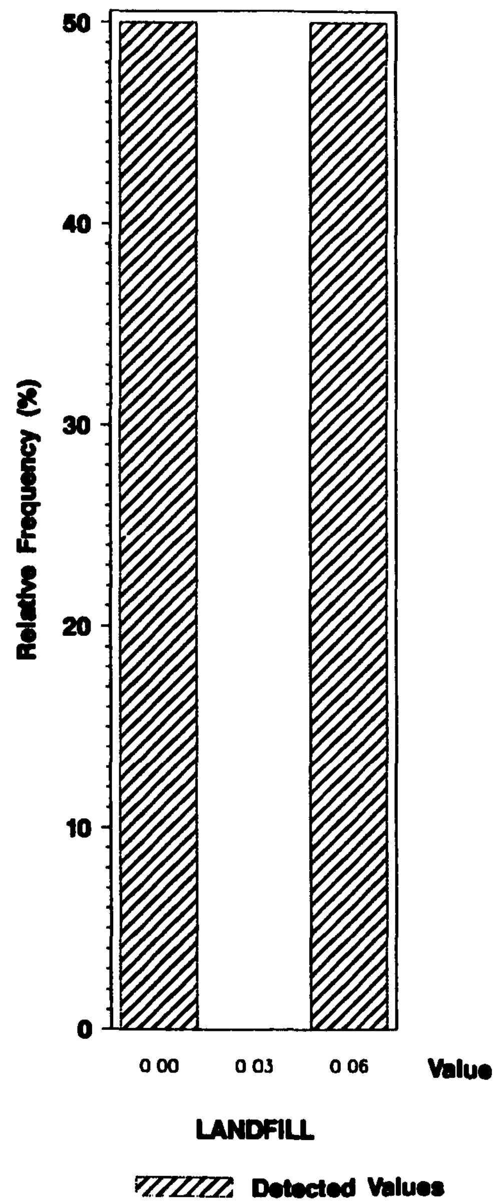
ANALYTE = AMERICIUM - 241



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total CESIUM RADIOACTIVE UNKN ISOTOPE (pCI/L) in Groundwater

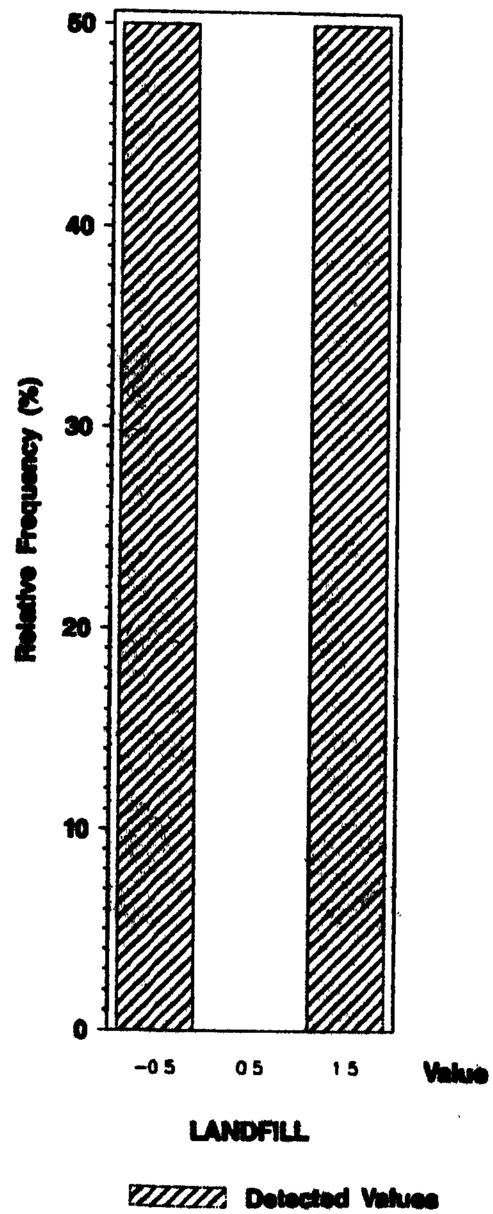
ANALYTE = CESIUM RADIOACTIVE UNKN ISOTOPE



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total CESIUM−134 (pCI/L) in Groundwater

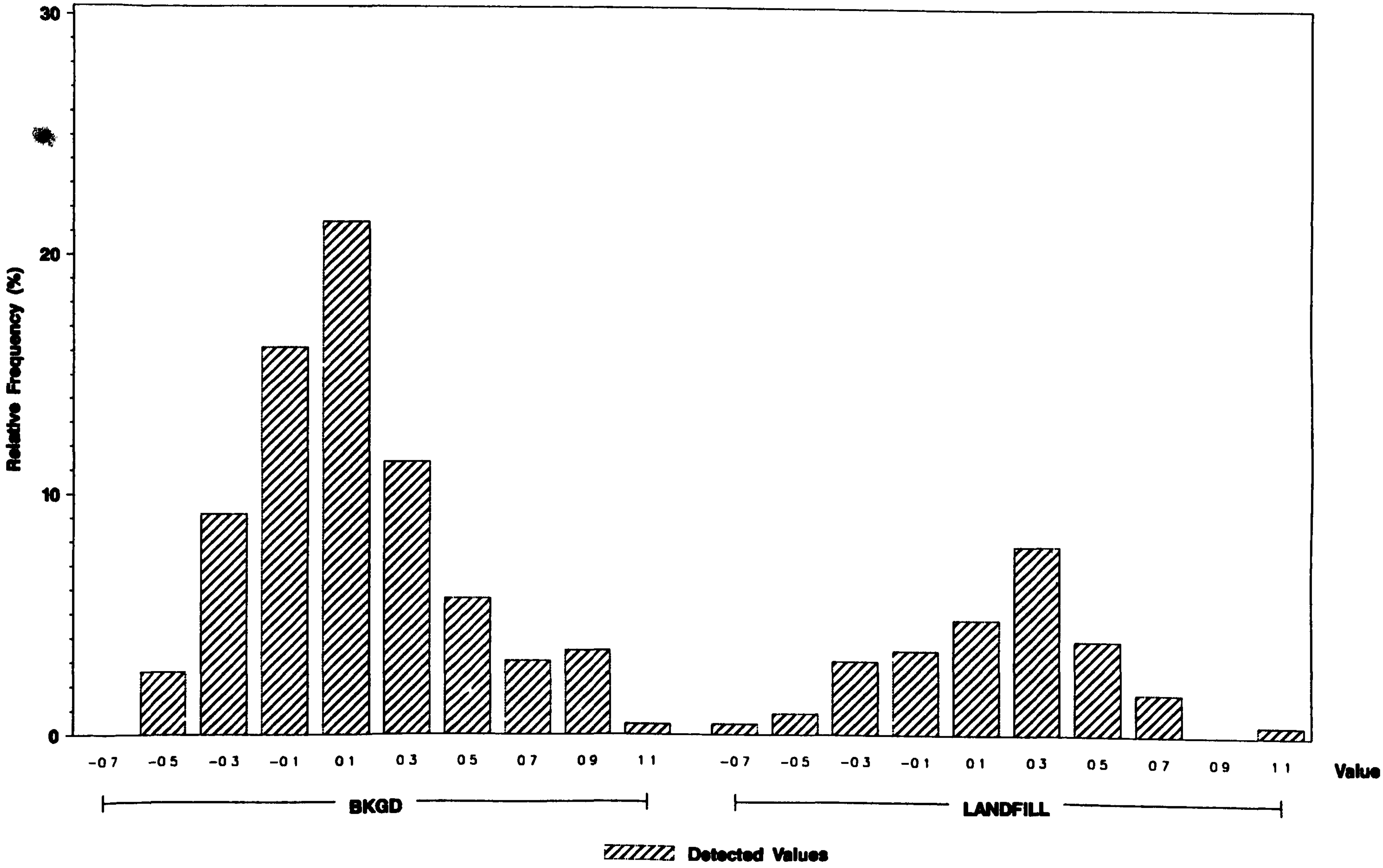
ANALYTE=CESIUM−134



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total CESIUM-137 (pCi/L) in Groundwater

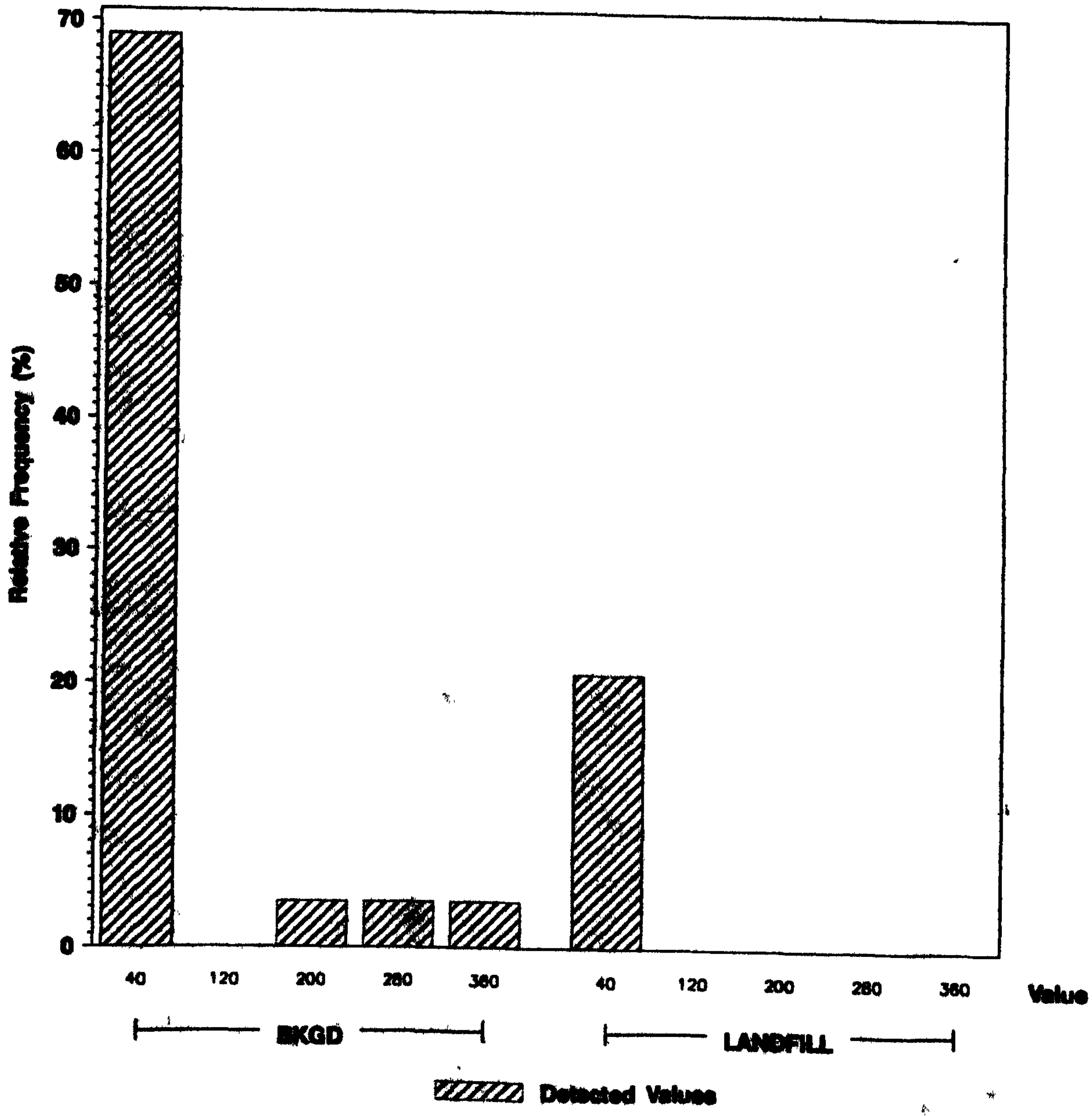
ANALYTE = CESIUM-137



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total GROSS ALPHA (pCI/L) In Groundwater

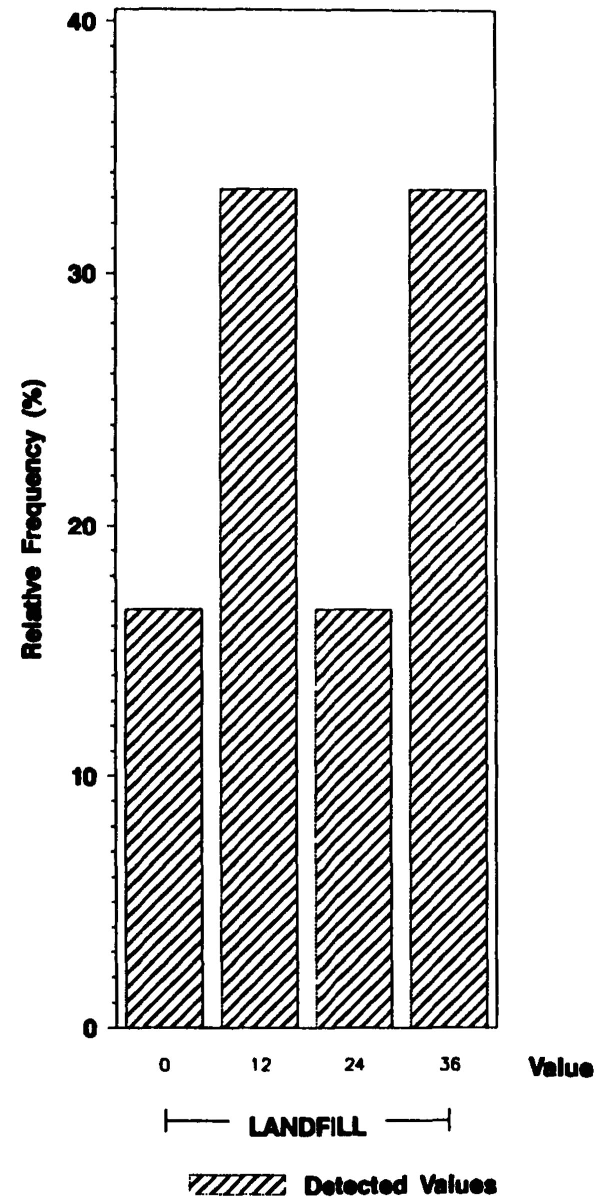
ANALYTE=GROSS ALPHA



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total GROSS ALPHA – DISSOLVED (pCi/L) in Groundwater

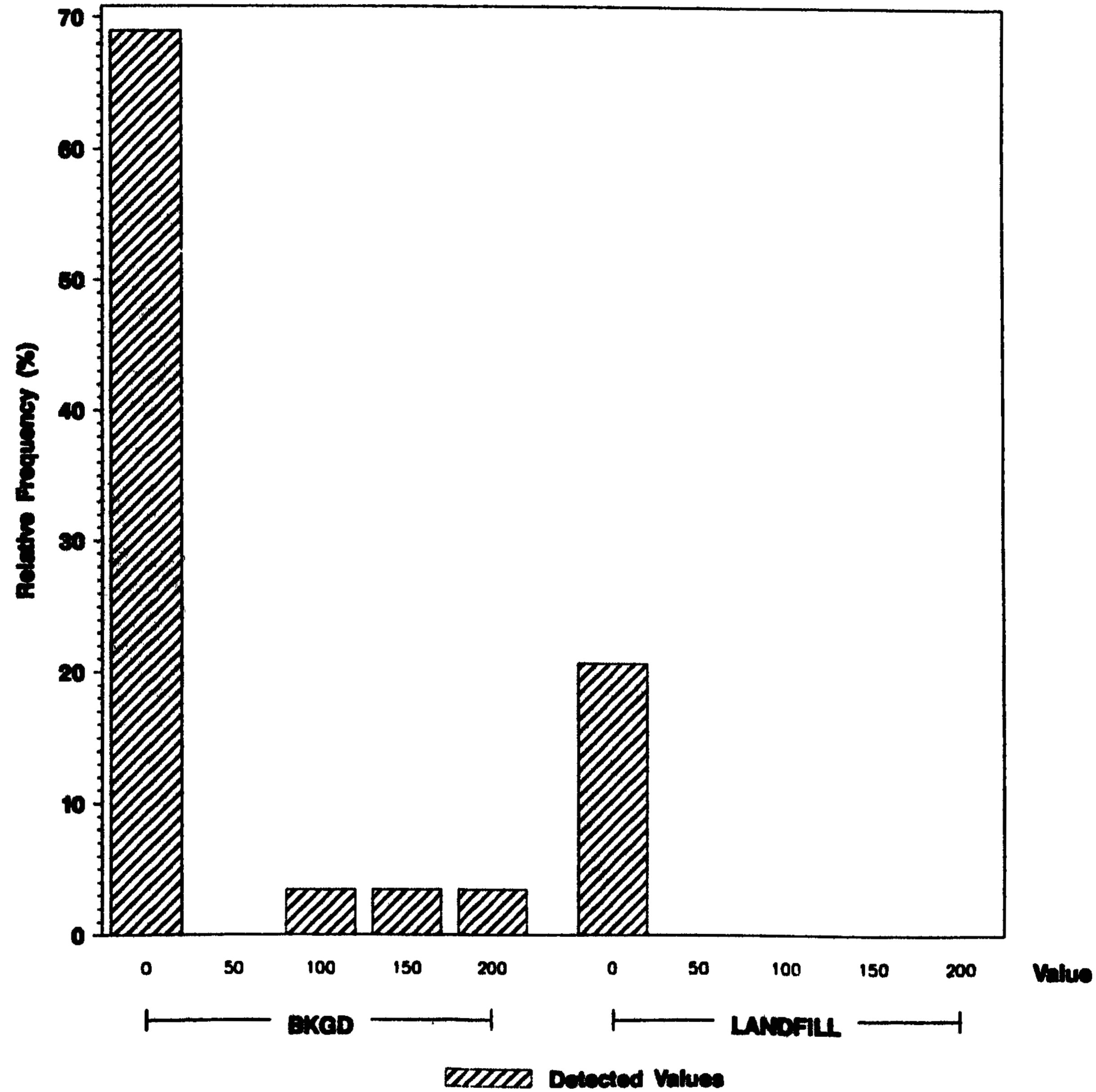
ANALYTE=GROSS ALPHA – DISSOLVED



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total GROSS BETA (pCI/L) In Groundwater

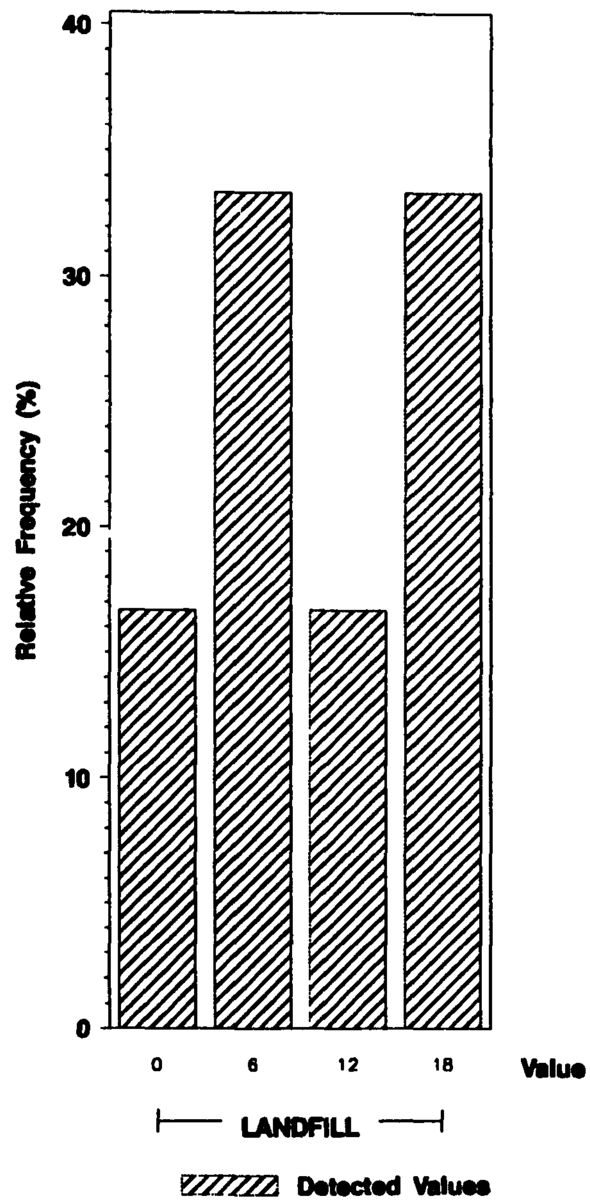
ANALYTE=GROSS BETA



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total GROSS BETA – DISSOLVED (pCi/L) In Groundwater

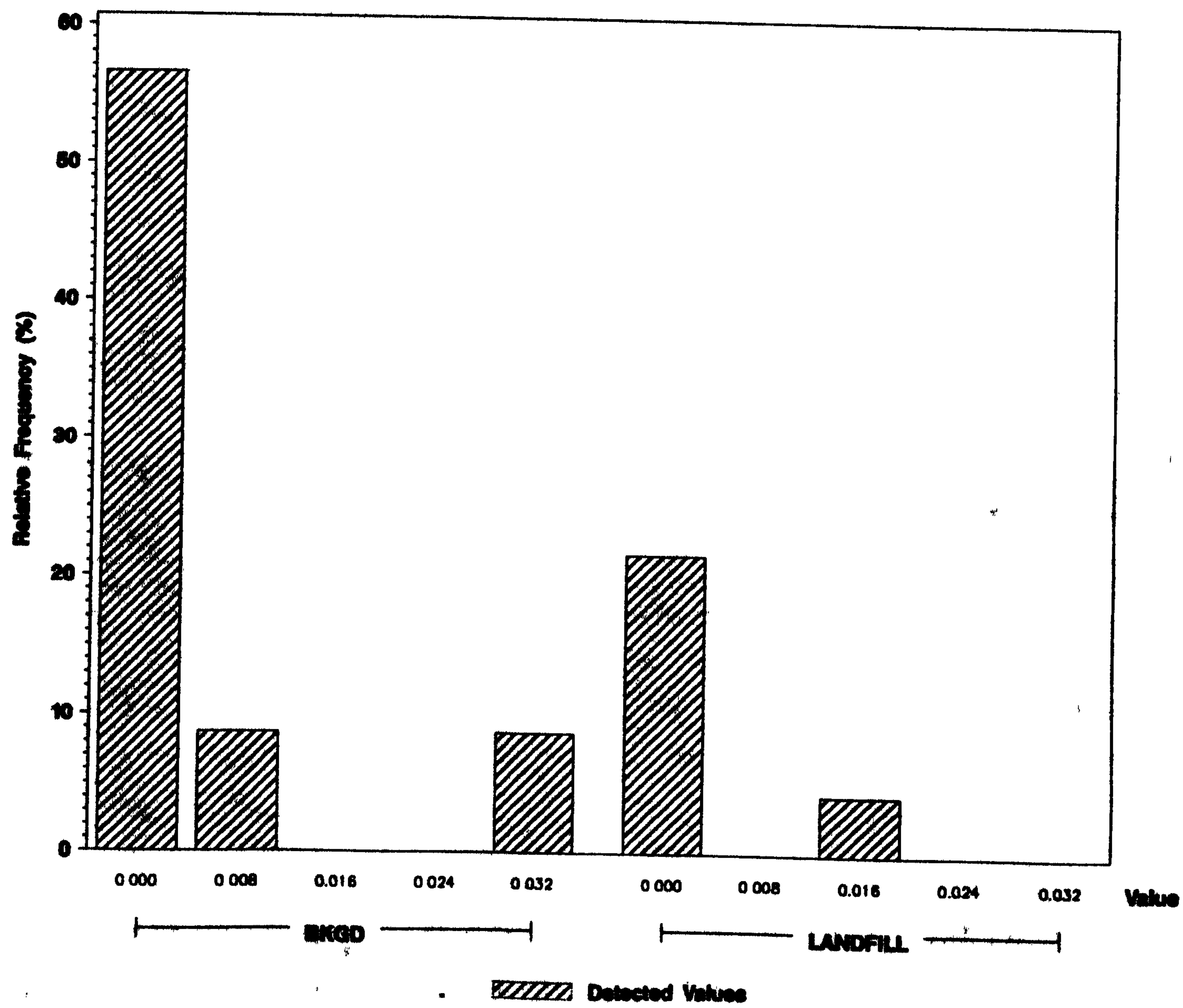
ANALYTE=GROSS BETA – DISSOLVED



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total PLUTONIUM – 238 (pCI/L) In Groundwater

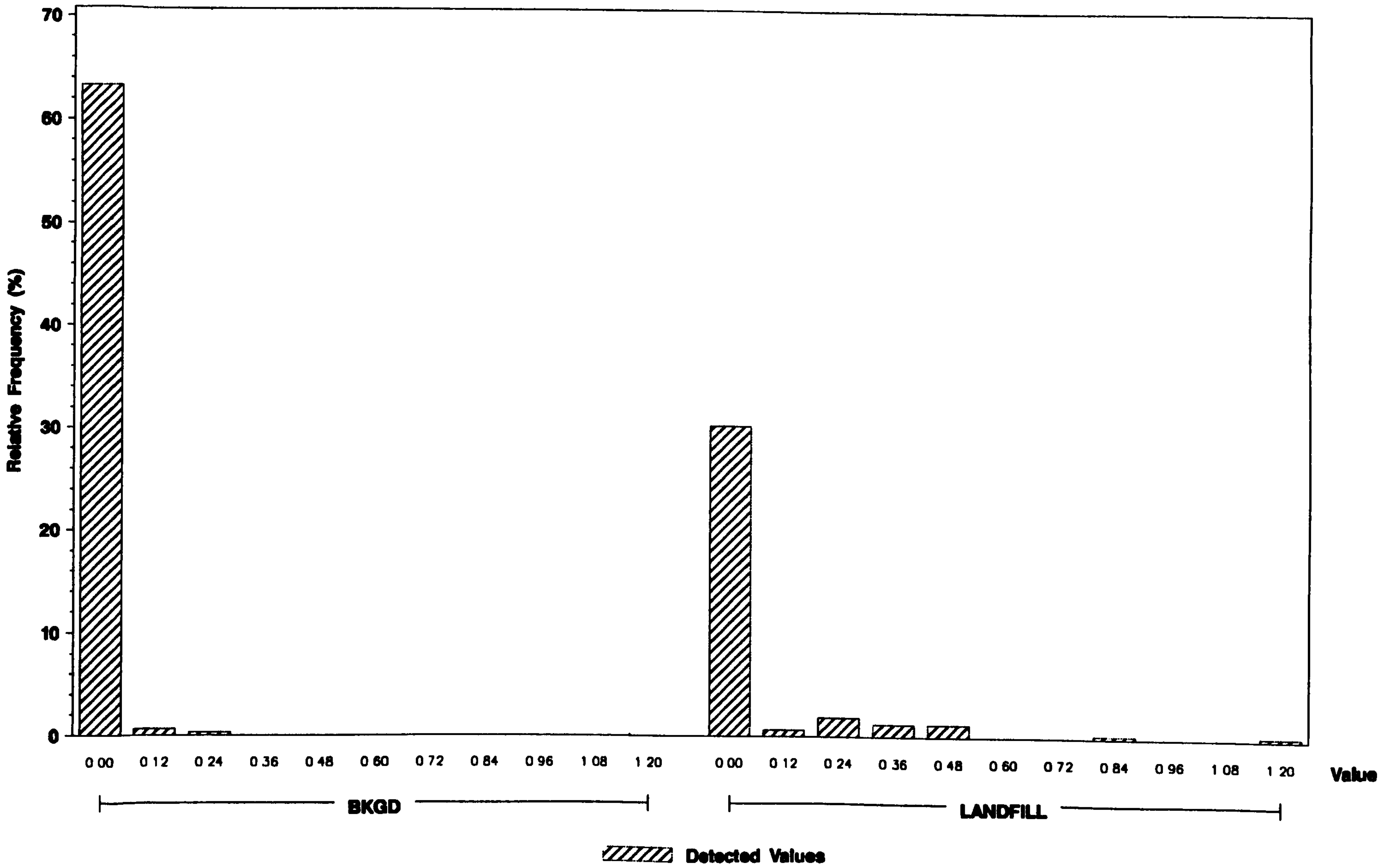
ANALYTE = PLUTONIUM – 238



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total PLUTONIUM – 239/240 (pCi/L) in Groundwater

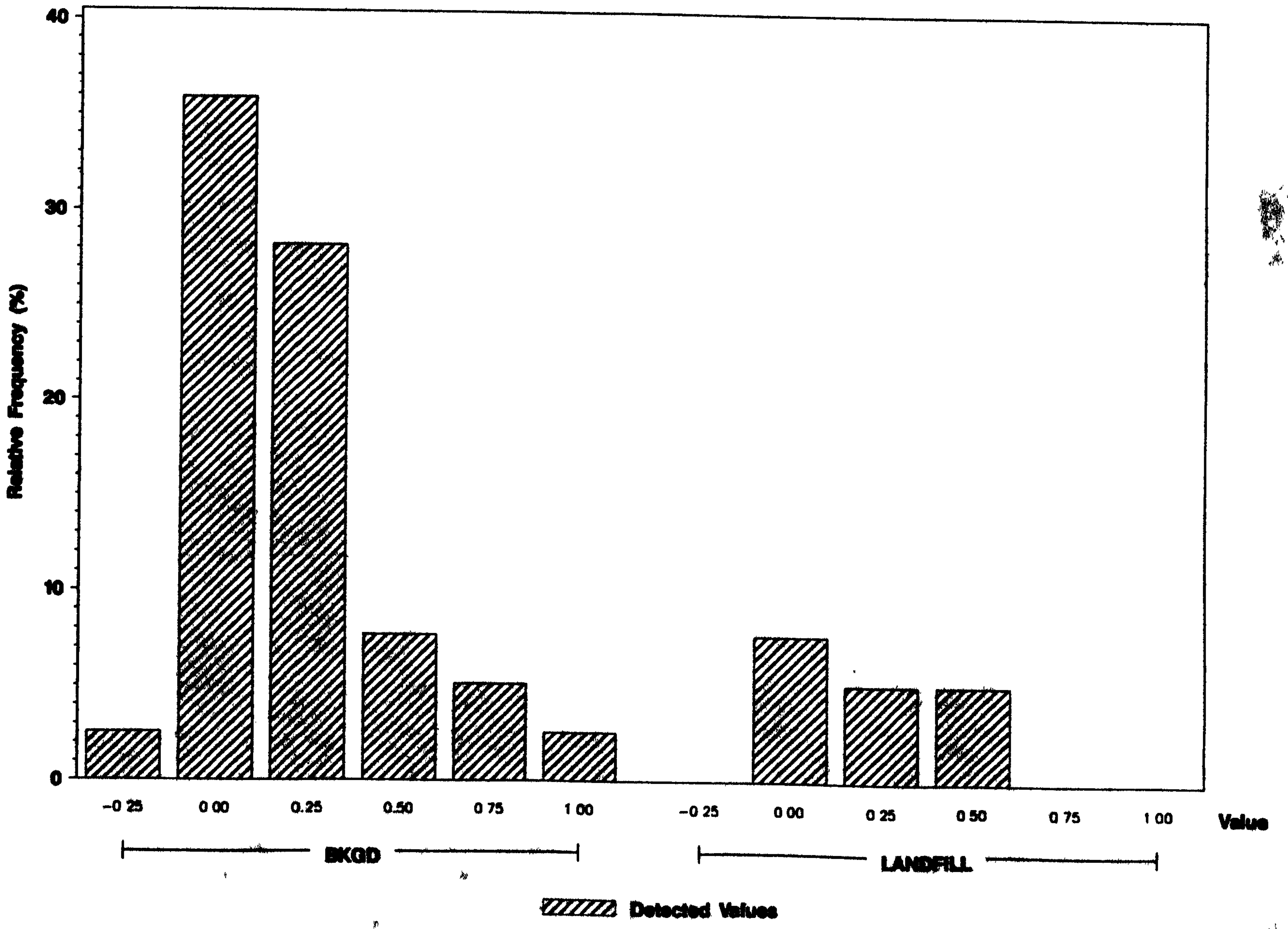
ANALYTE = PLUTONIUM – 239/240



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total STRONTIUM – 89,90 (pCi/L) in Groundwater

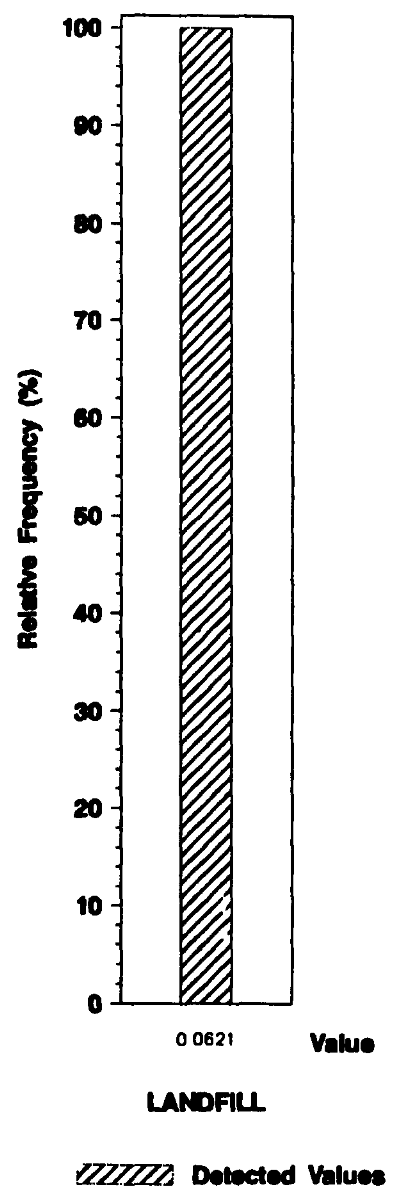
ANALYTE = STRONTIUM – 89,90



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total STRONTIUM – 90 (pCI/L) In Groundwater

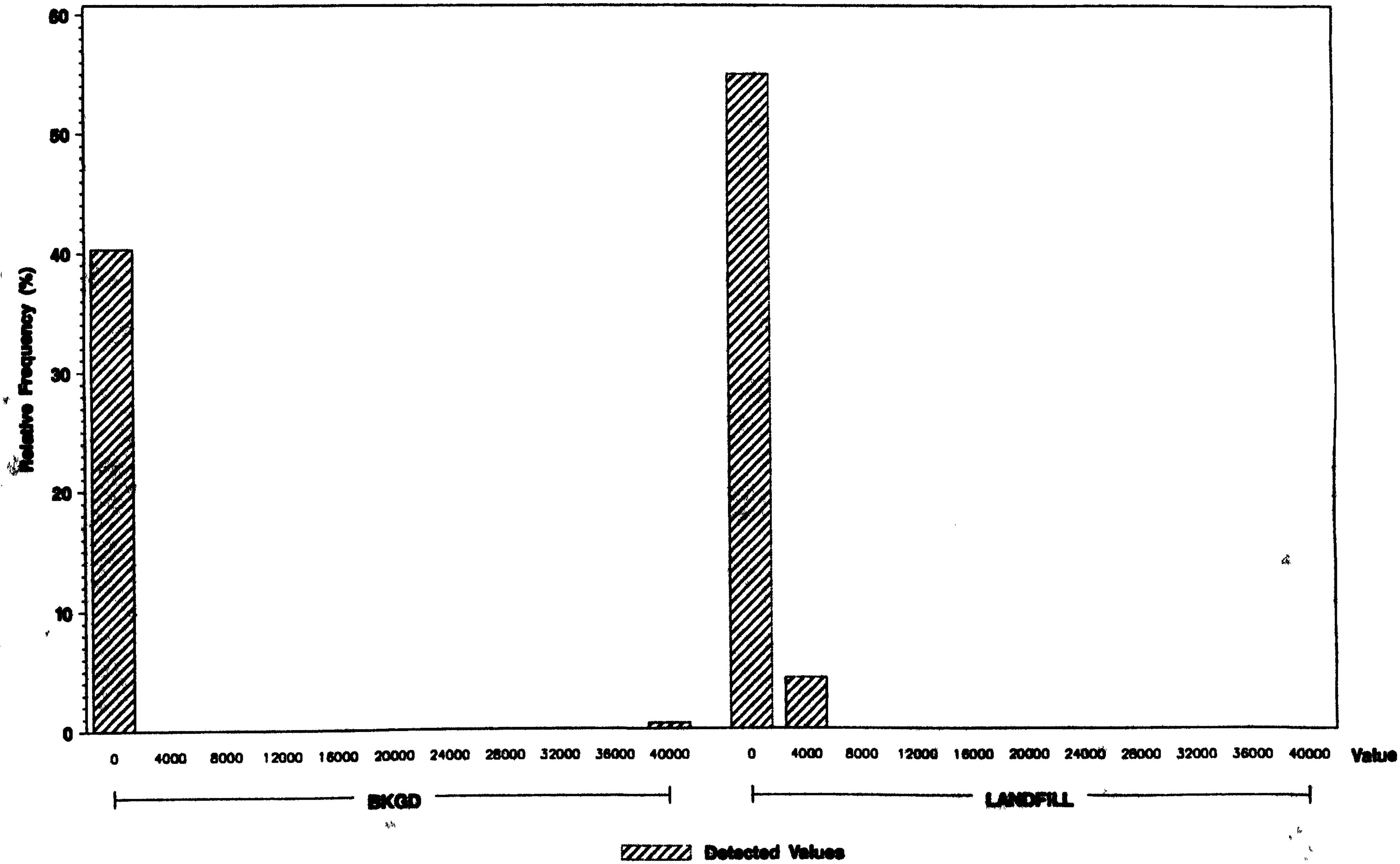
ANALYTE = STRONTIUM – 90



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total TRITIUM (pCi/L) in Groundwater

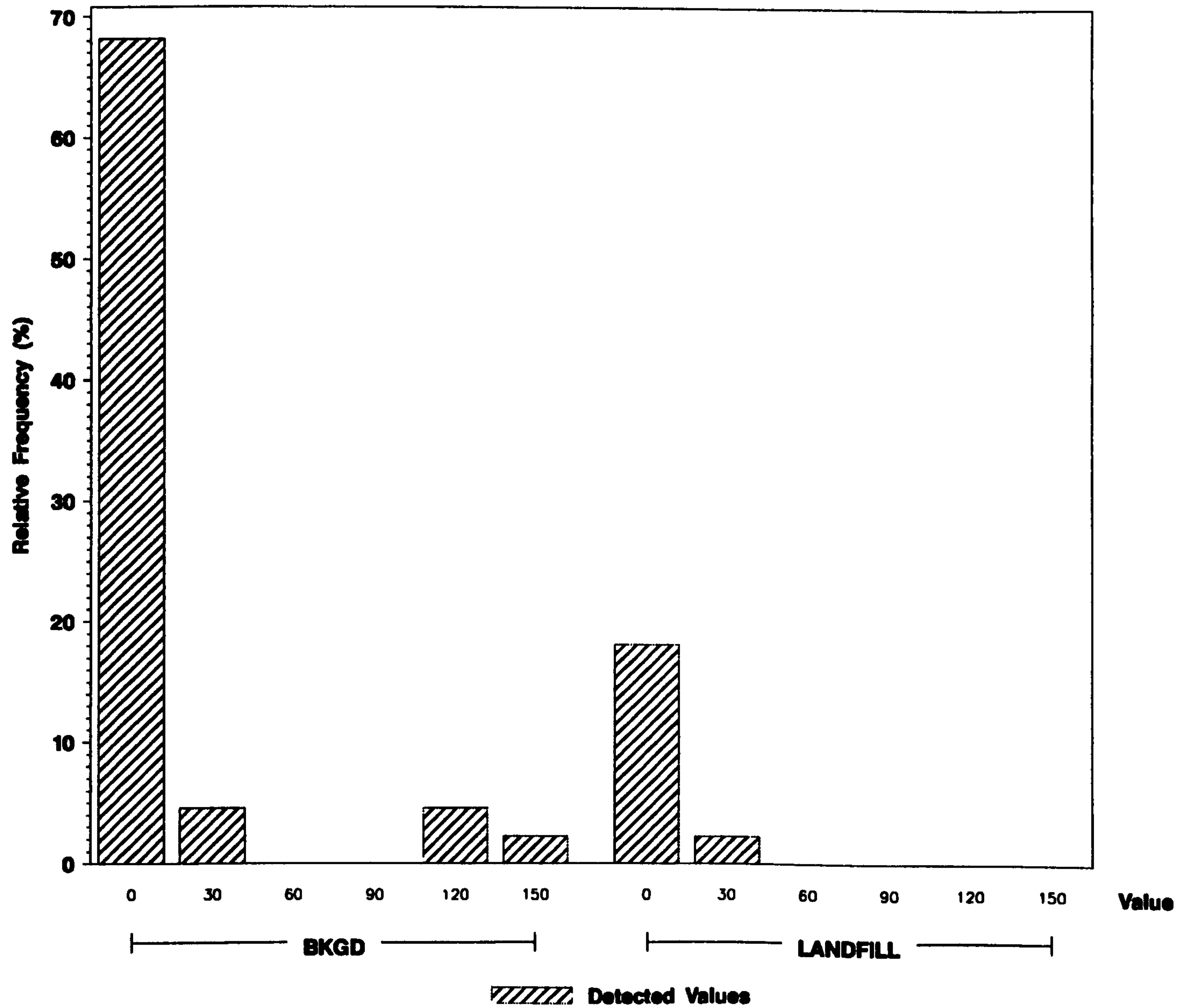
ANALYTE = TRITIUM



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total URANIUM – 233, – 234 (pCI/L) in Groundwater

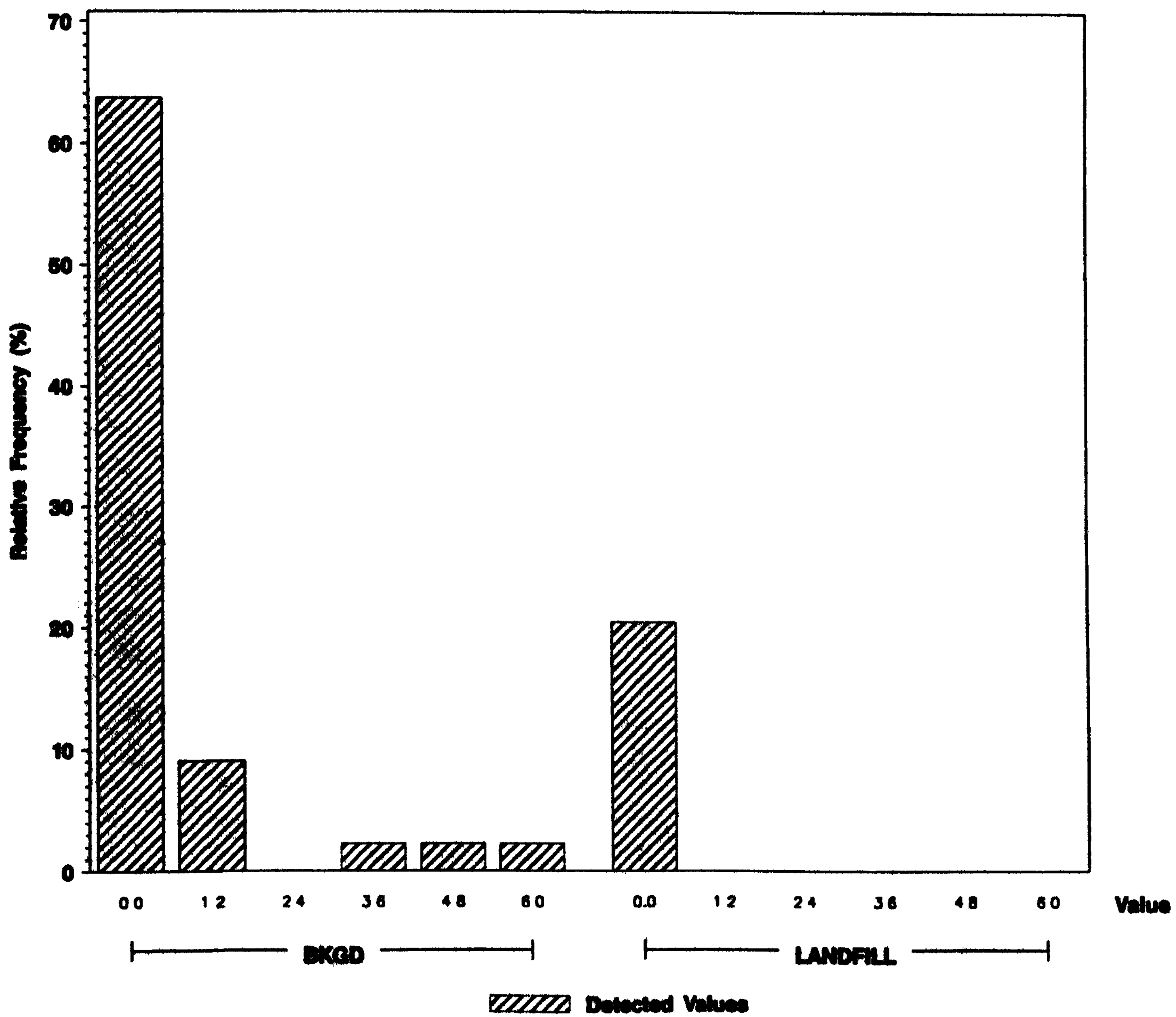
ANALYTE = URANIUM – 233, – 234



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total URANIUM-235 (pCI/L) In Groundwater

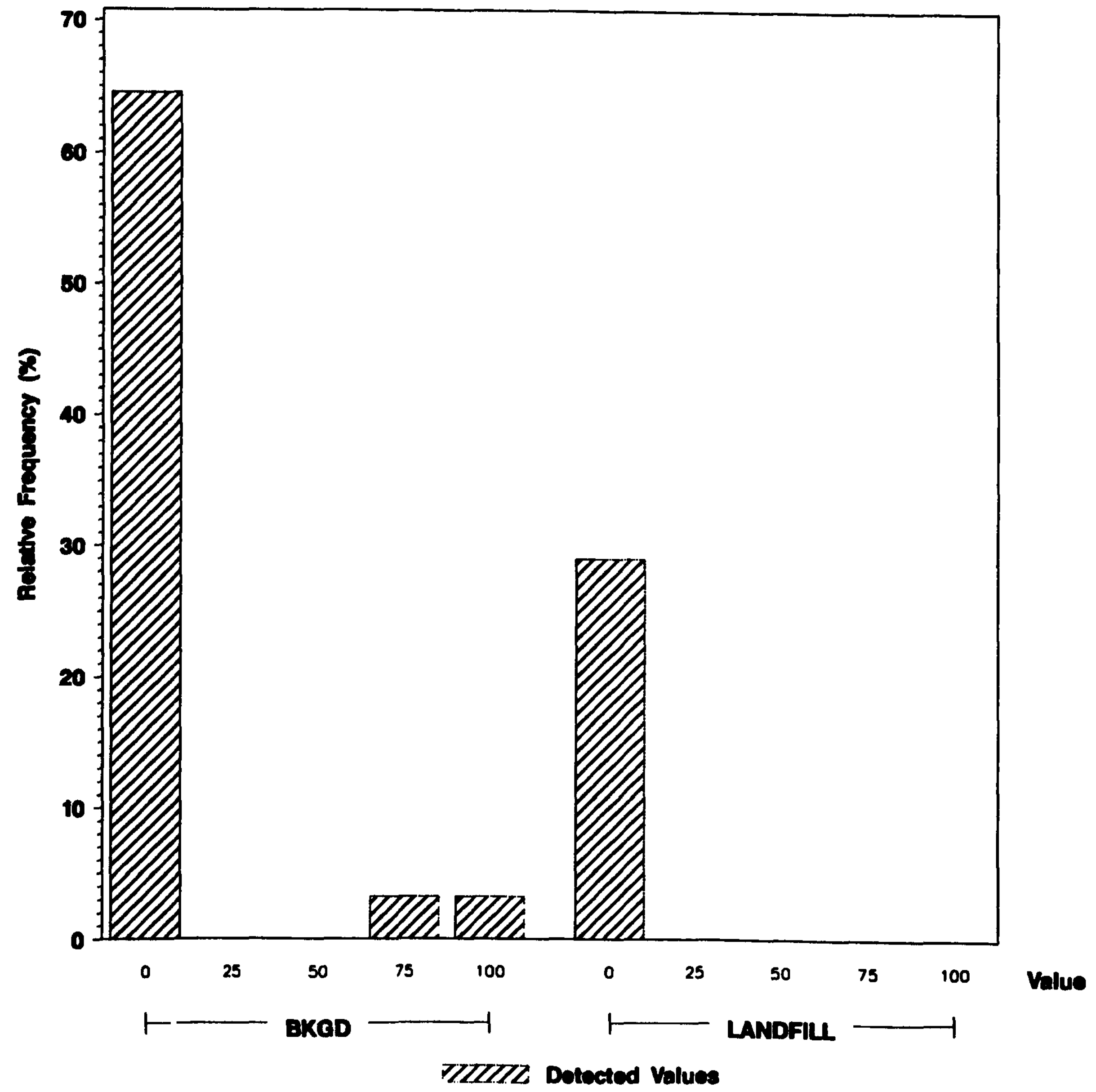
ANALYTE=URANIUM-235



Background vs Landfill Leachate (UHSU) Frequency Histogram

Total URANIUM – 238 (pCi/L) in Groundwater

ANALYTE = URANIUM – 238



Groundwater

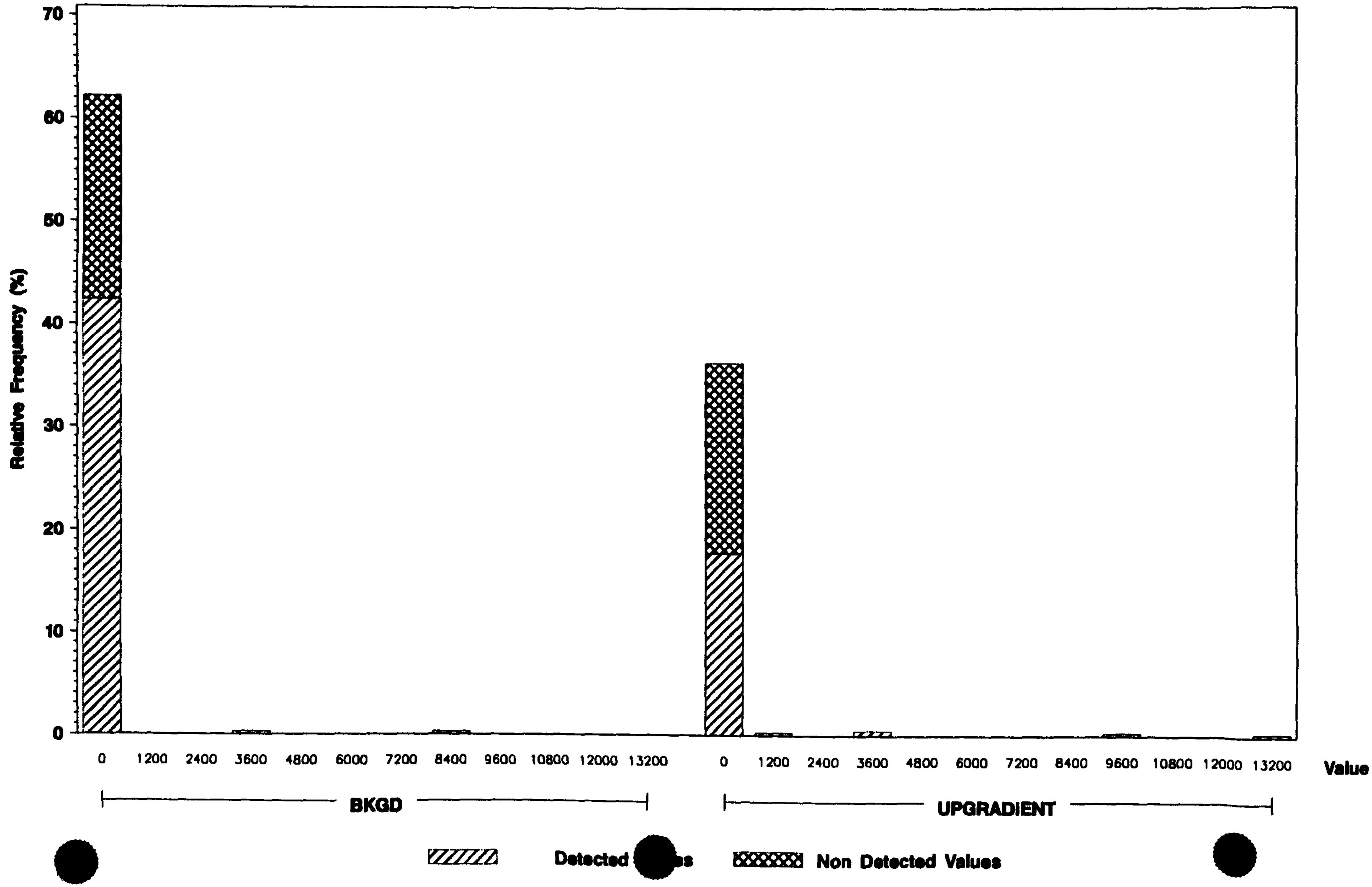
(Dissolved)

Background vs. OU 7 Upgradient UHSU

Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved ALUMINUM (ug/L) in Groundwater

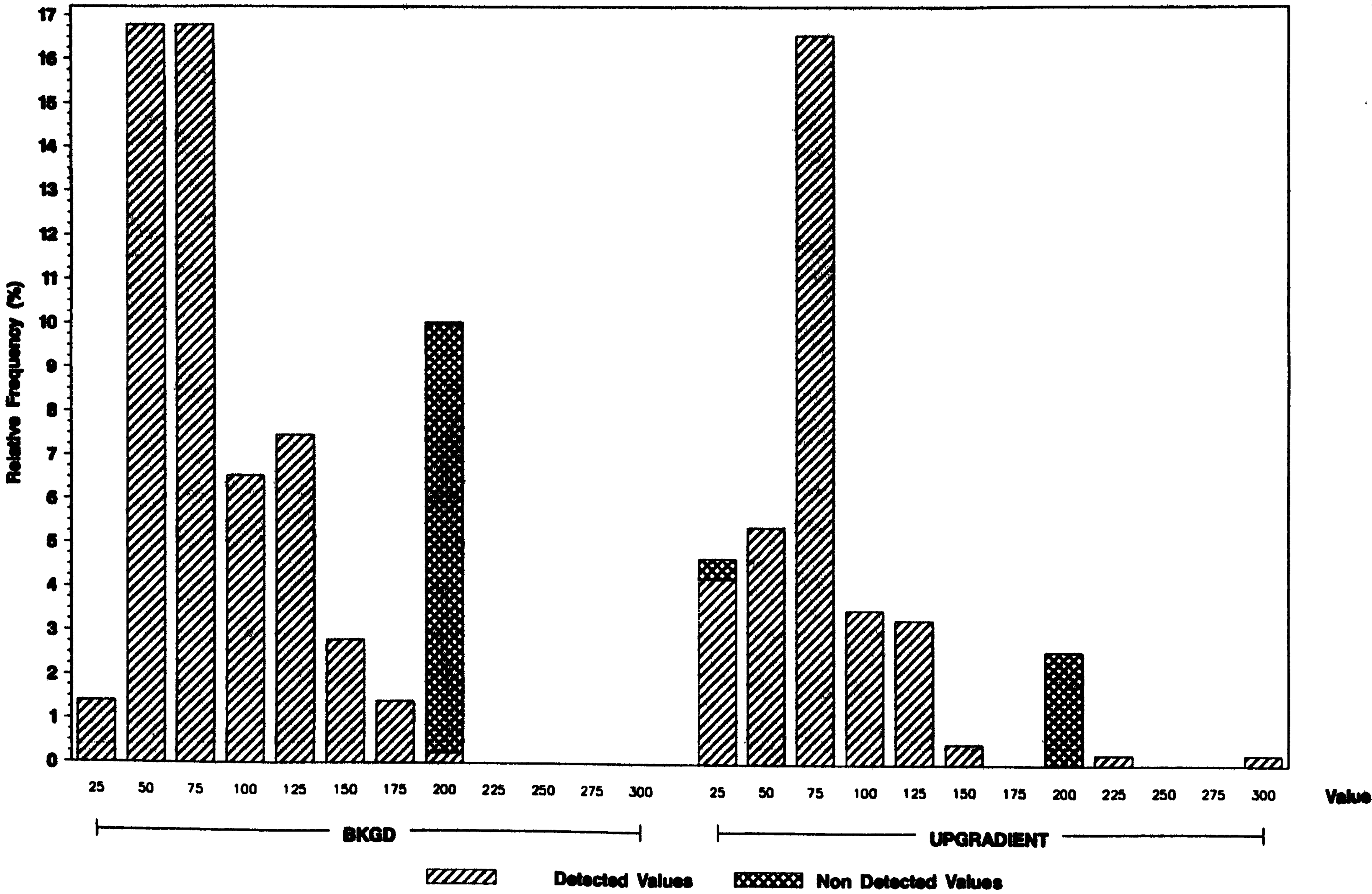
ANALYTE = ALUMINUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved BARIUM (ug/L) in Groundwater

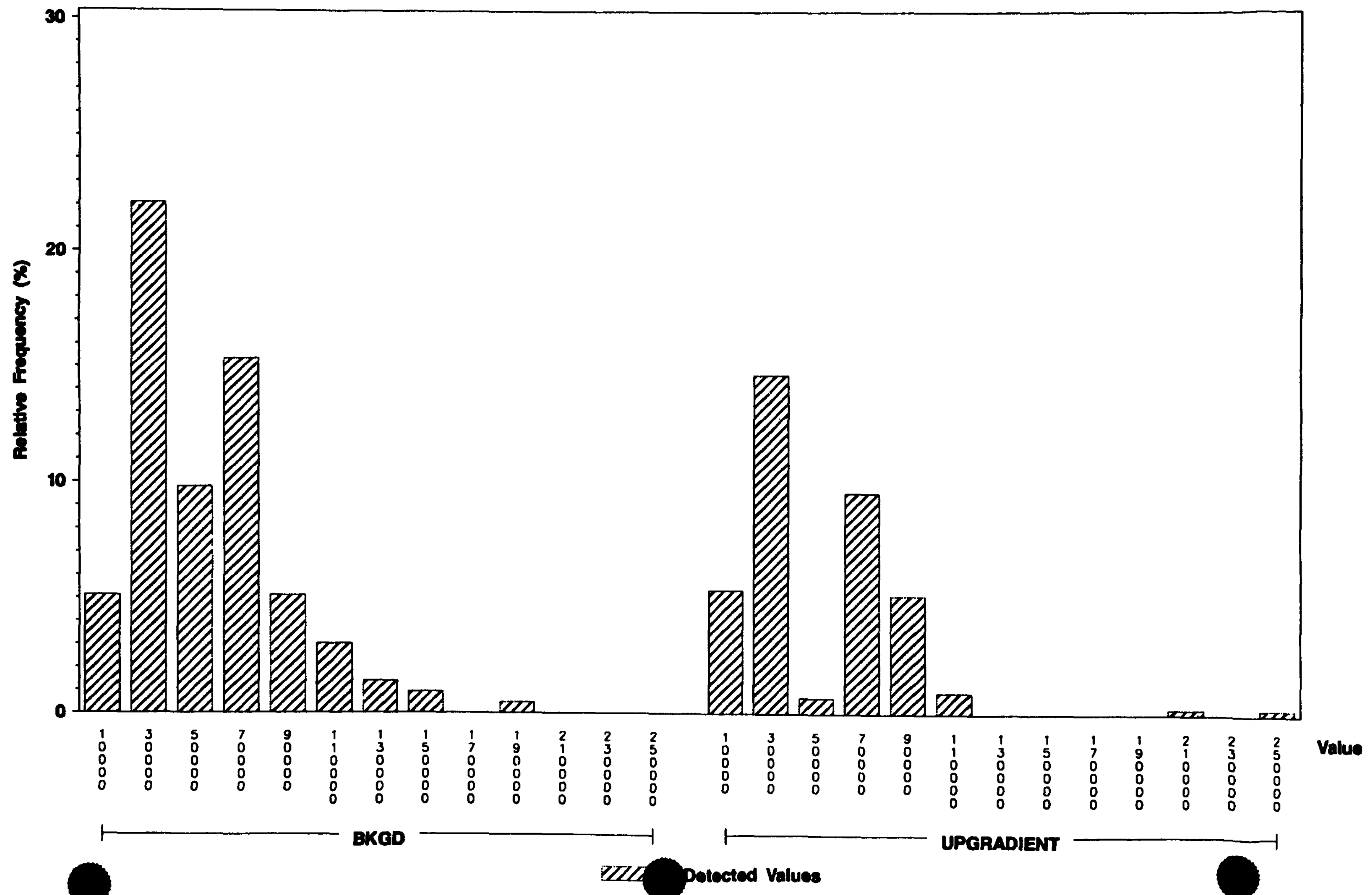
ANALYTE = BARIUM



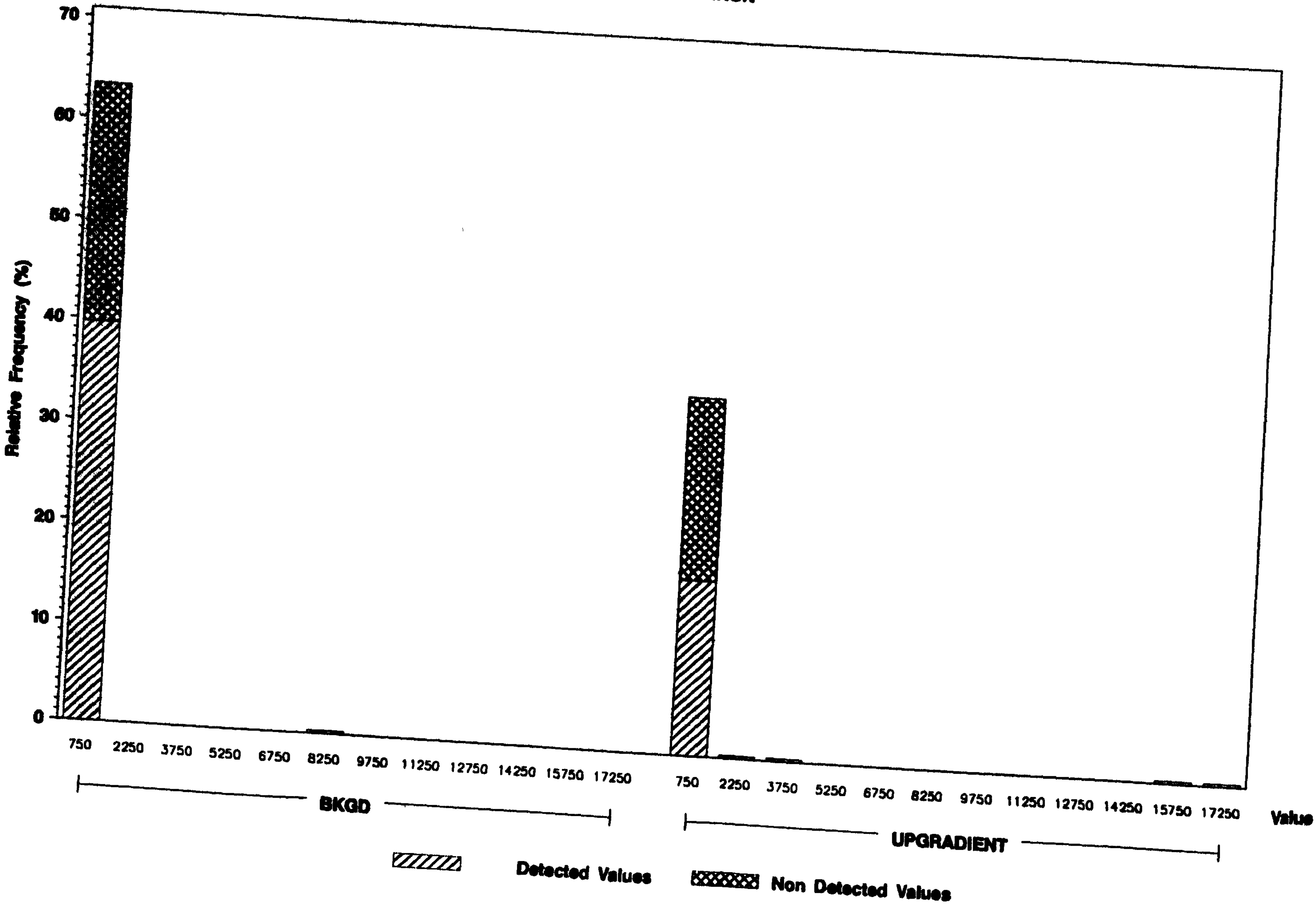
Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved CALCIUM (ug/L) in Groundwater

ANALYTE=CALCIUM



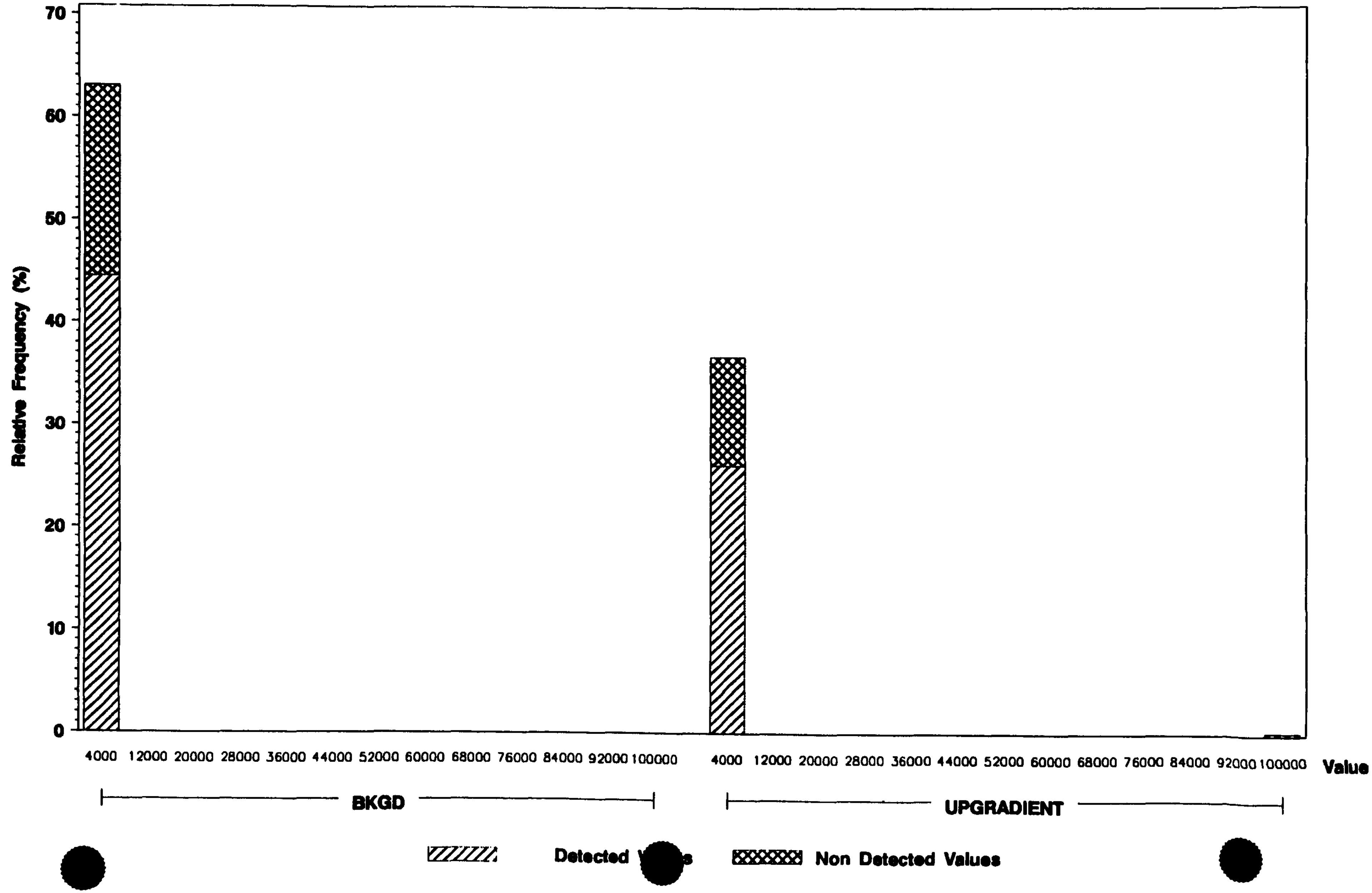
Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram
Dissolved IRON (ug/L) in Groundwater
ANALYTE=IRON



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved LITHIUM (ug/L) in Groundwater

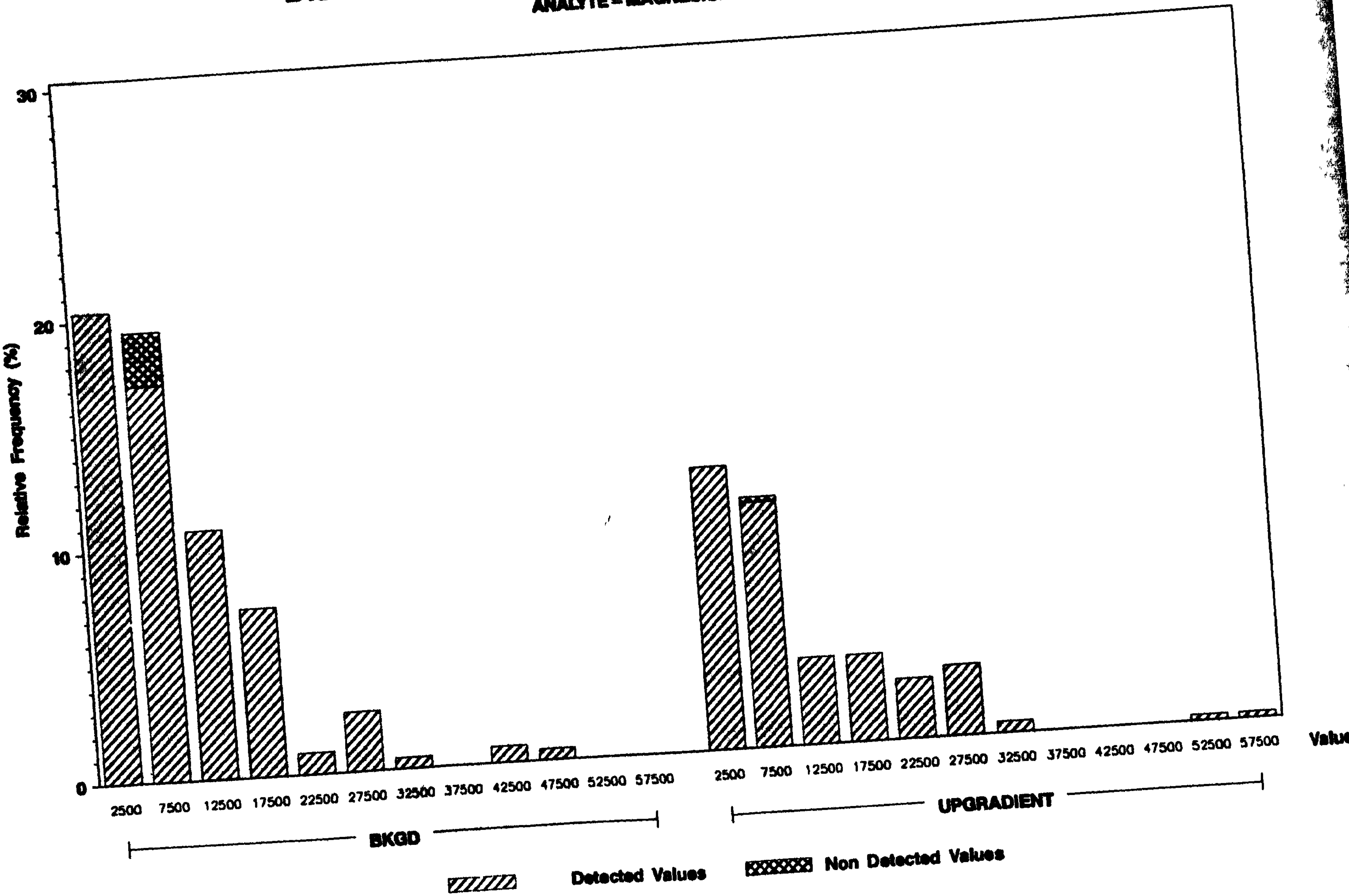
ANALYTE=LITHIUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved MAGNESIUM (ug/L) in Groundwater

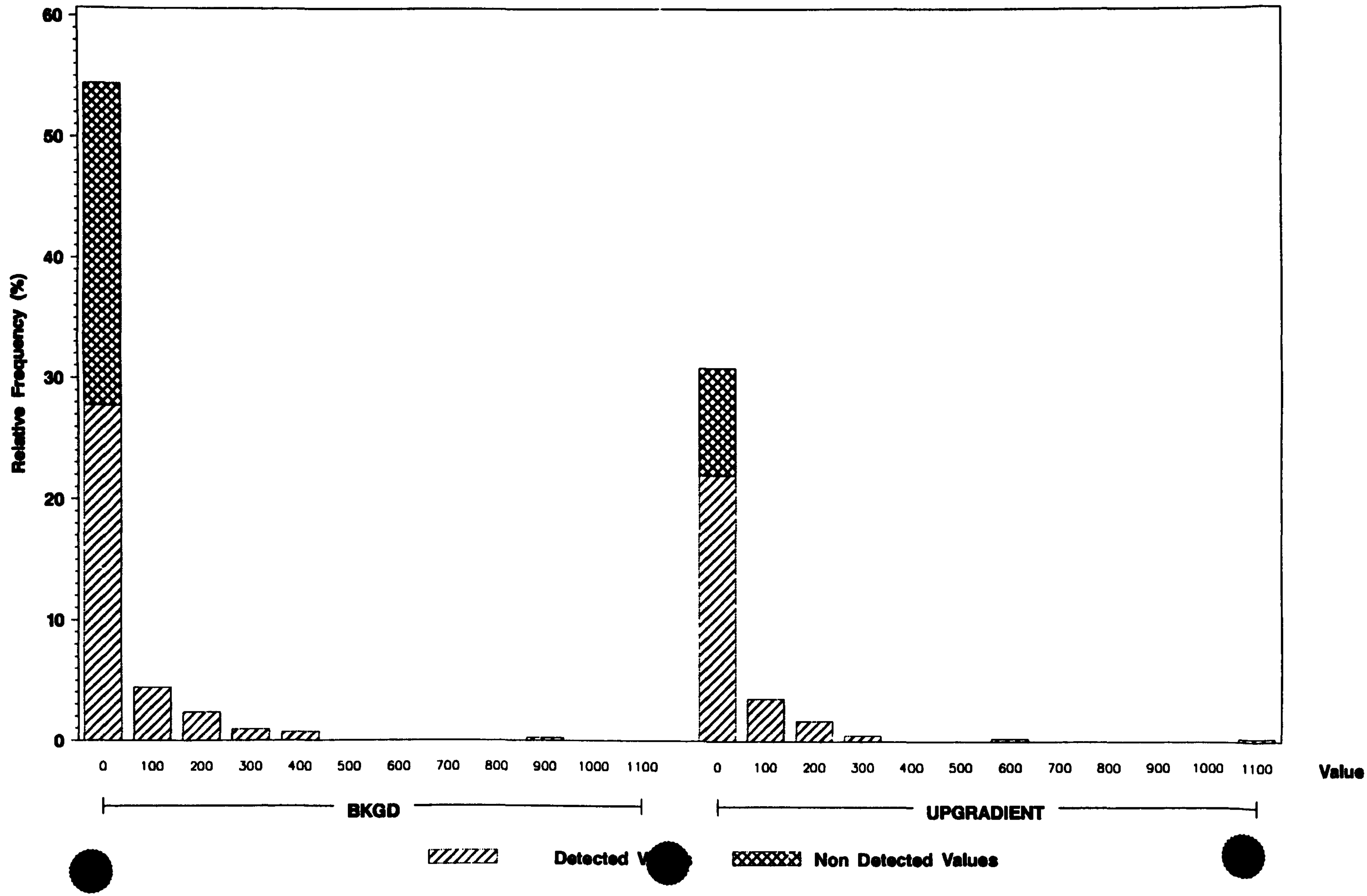
ANALYTE=MAGNESIUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved MANGANESE (ug/L) in Groundwater

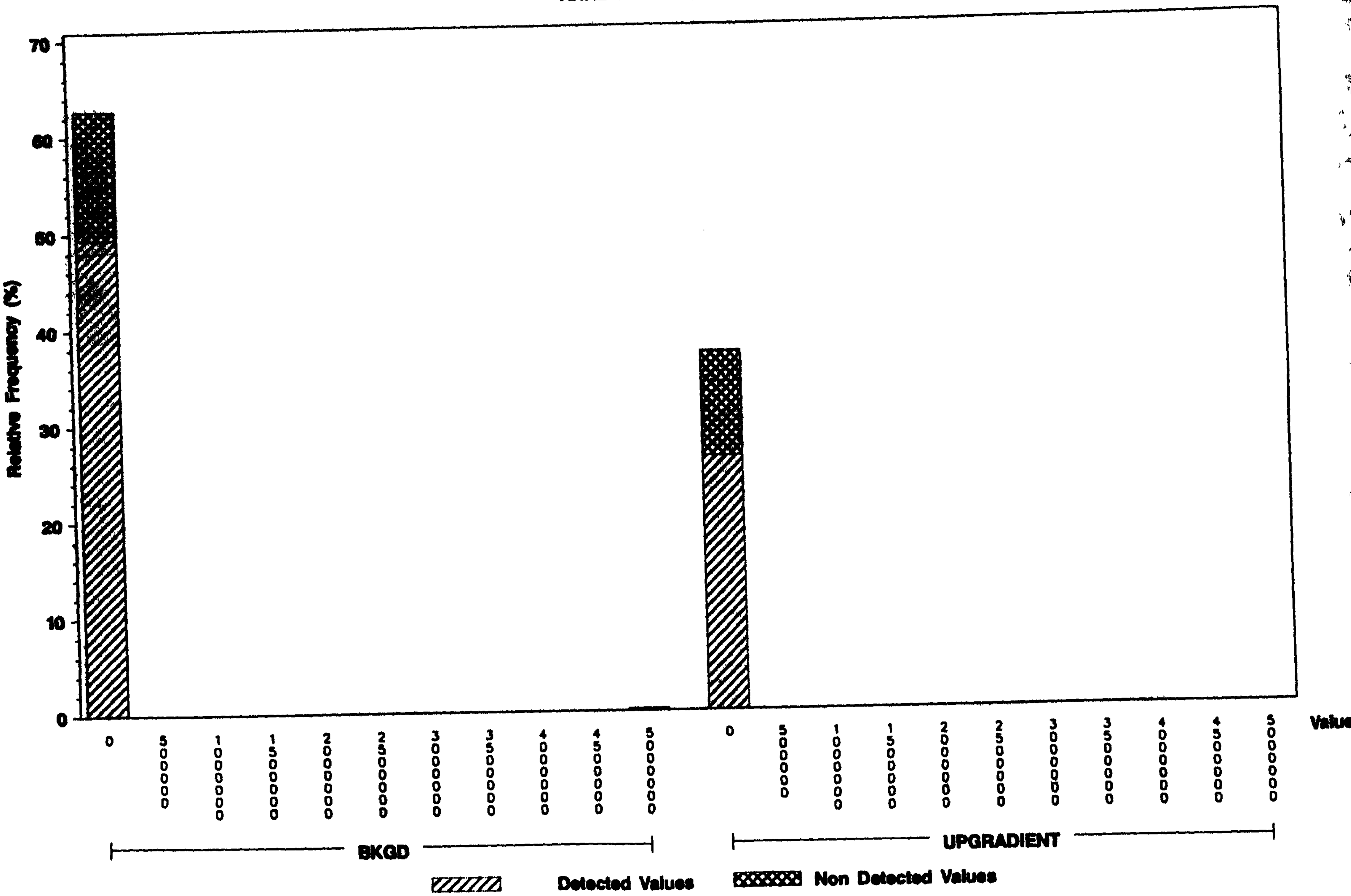
ANALYTE=MANGANESE



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved POTASSIUM (ug/L) in Groundwater

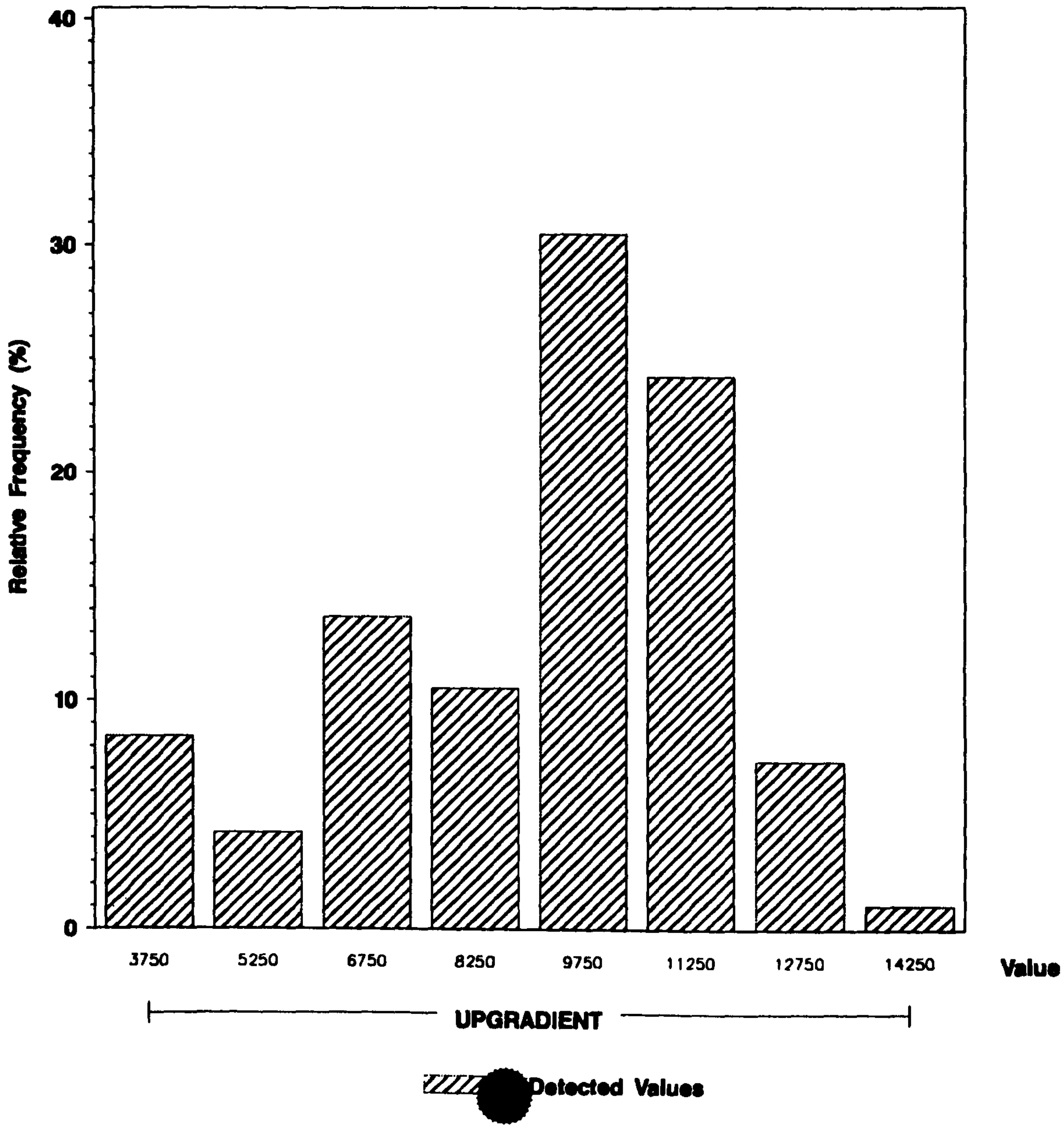
ANALYTE = POTASSIUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved SILICON (ug/L) in Groundwater

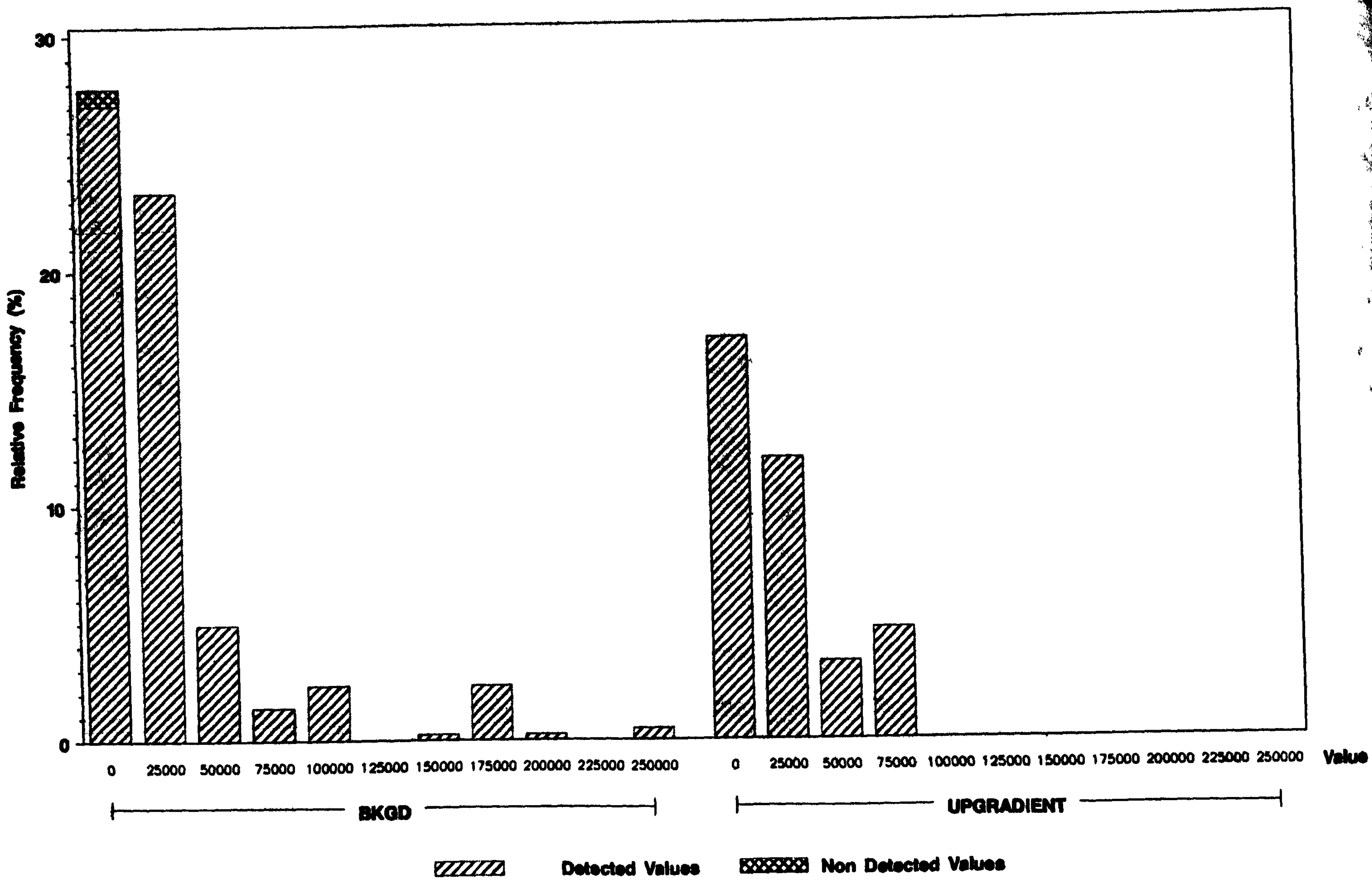
ANALYTE=SILICON



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved SODIUM (ug/L) in Groundwater

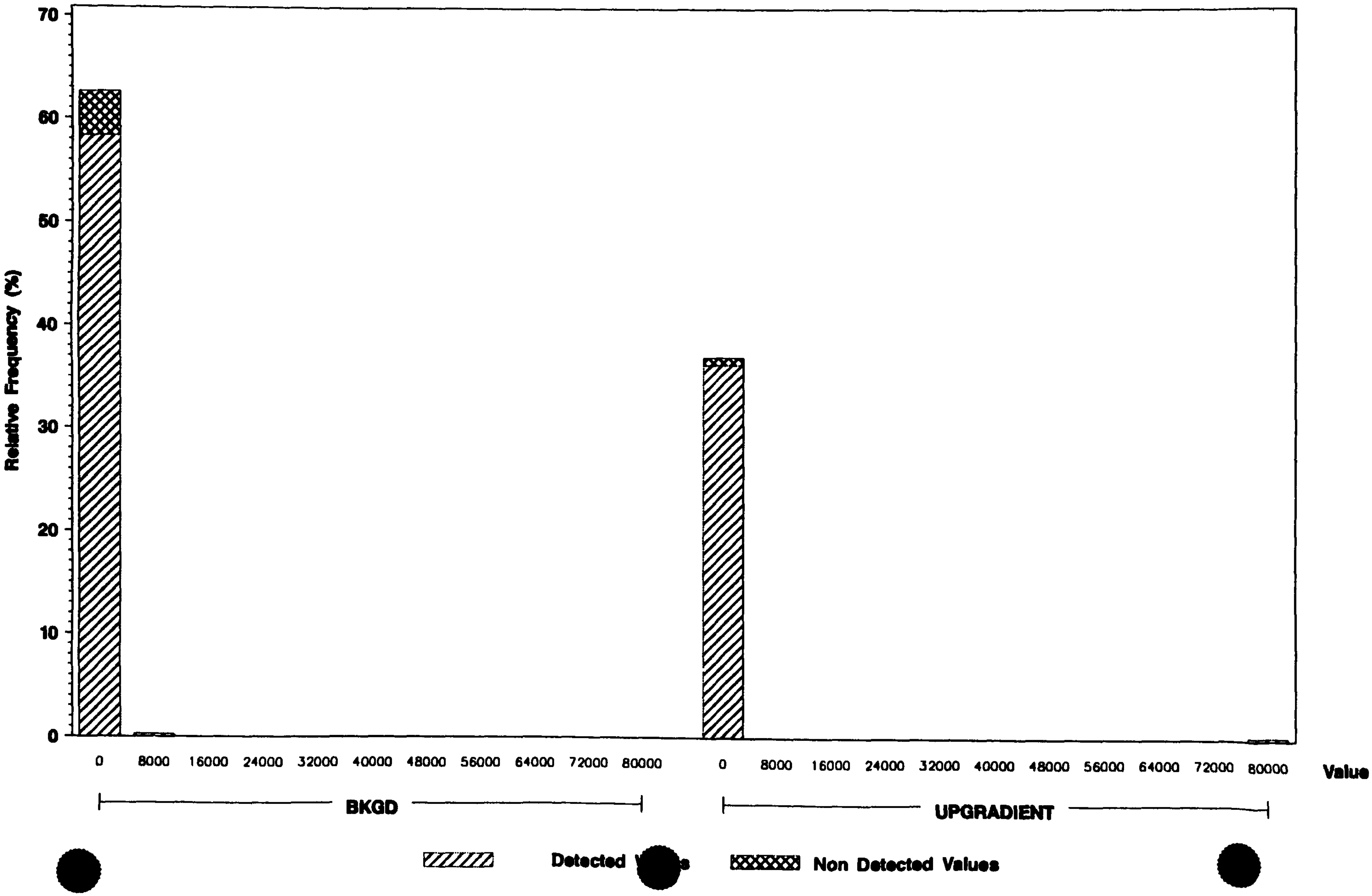
ANALYTE = SODIUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved STRONTIUM (ug/L) in Groundwater

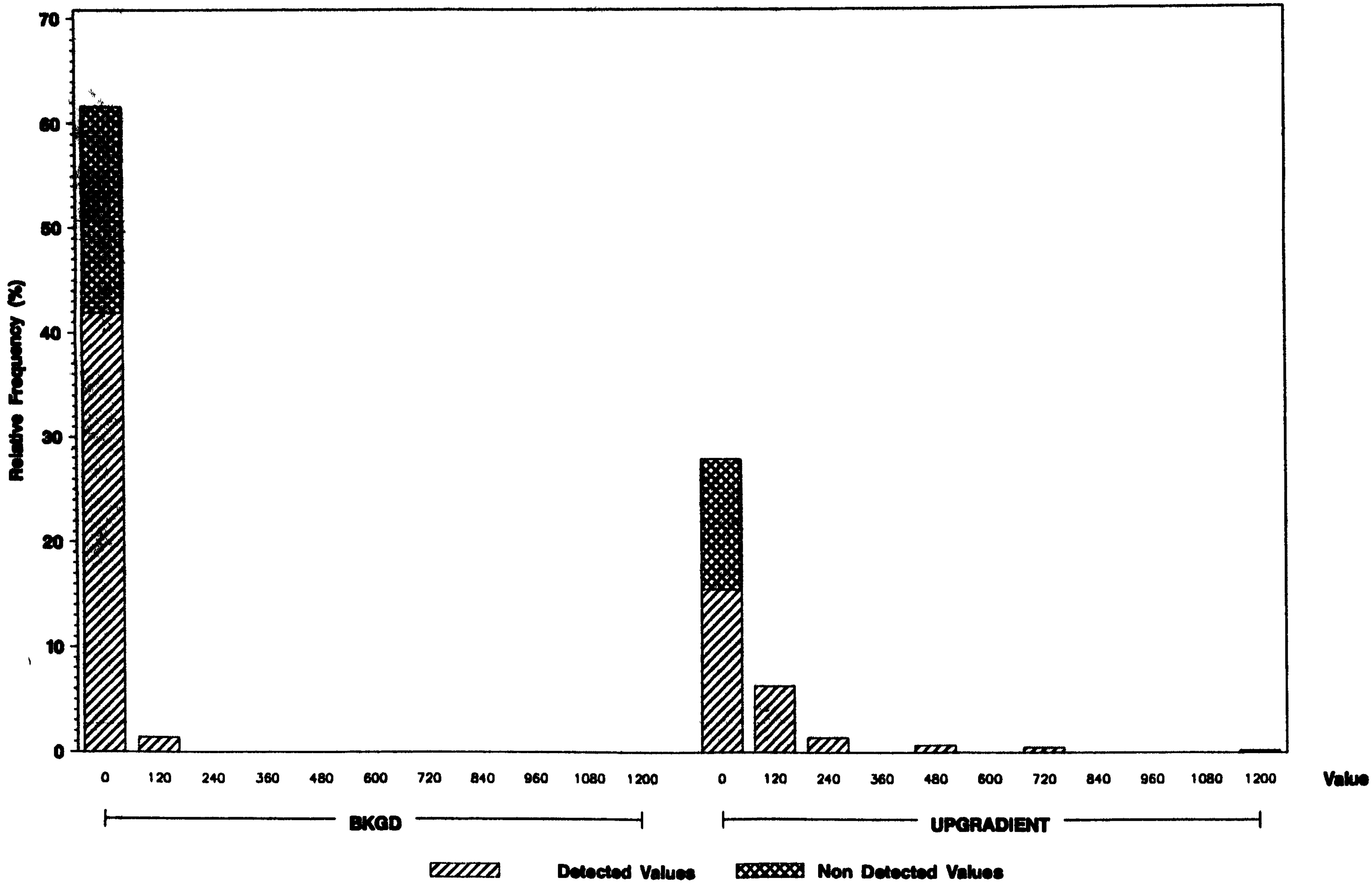
ANALYTE=STRONTIUM



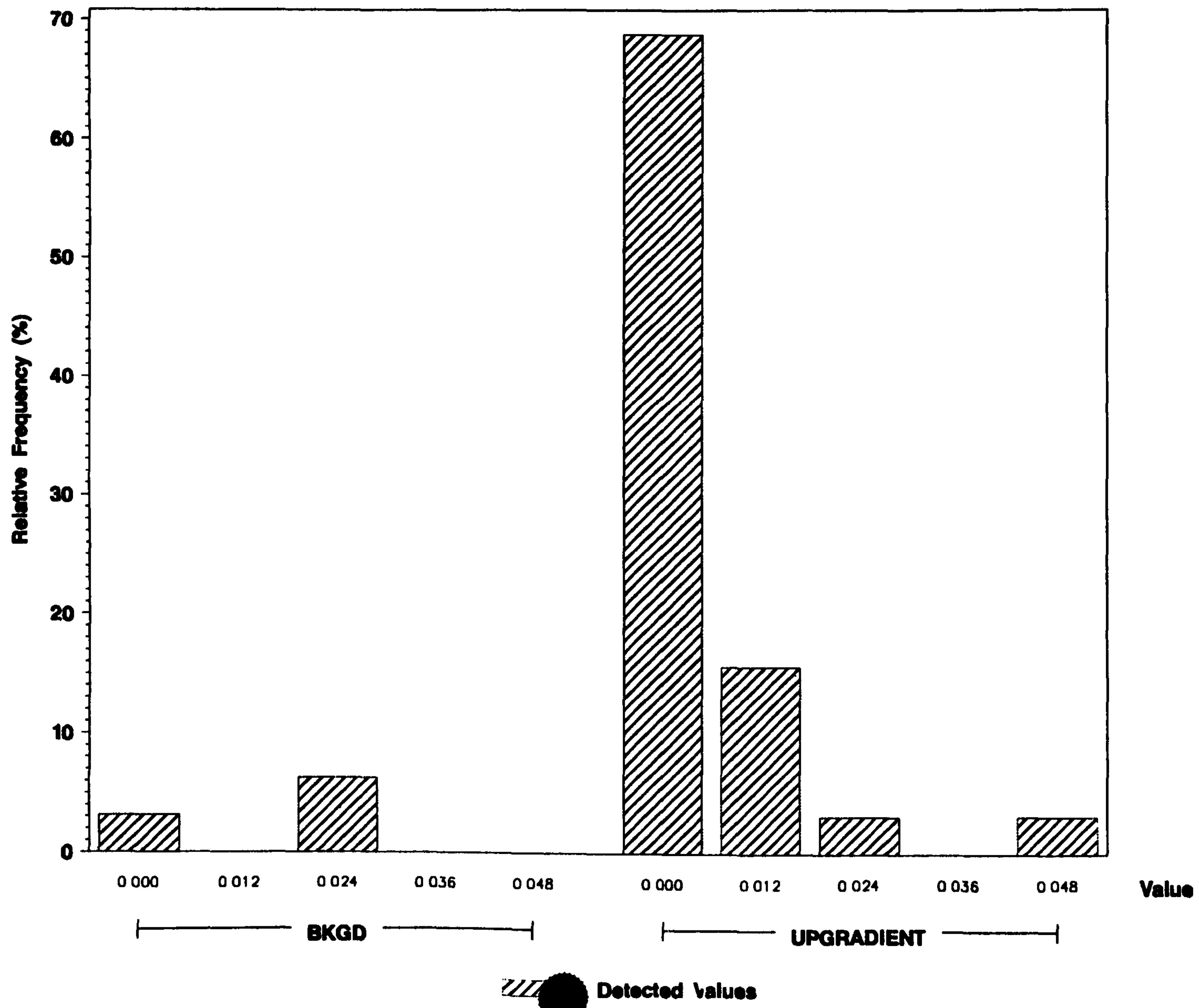
Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved ZINC (ug/L) in Groundwater

ANALYTE=ZINC

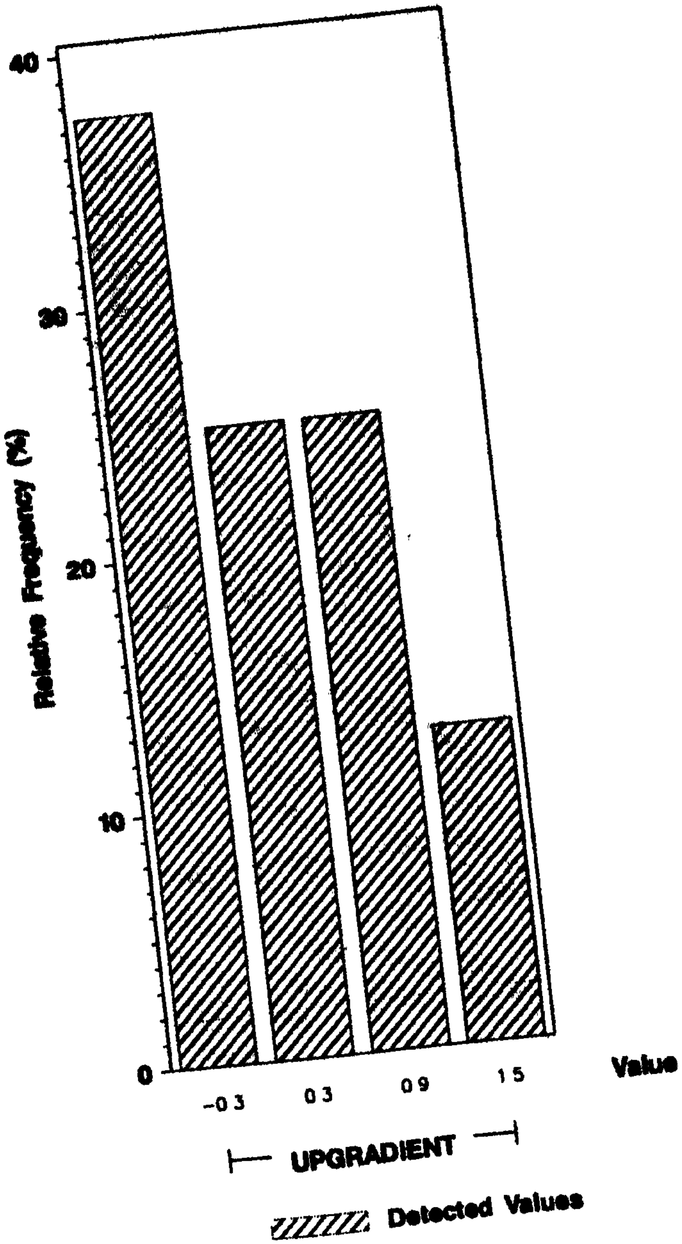


Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram
Dissolved AMERICIUM-241 (pCi/L) in Groundwater
ANALYTE=AMERICIUM-241



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram
Dissolved CESIUM-134 (pCi/L) in Groundwater

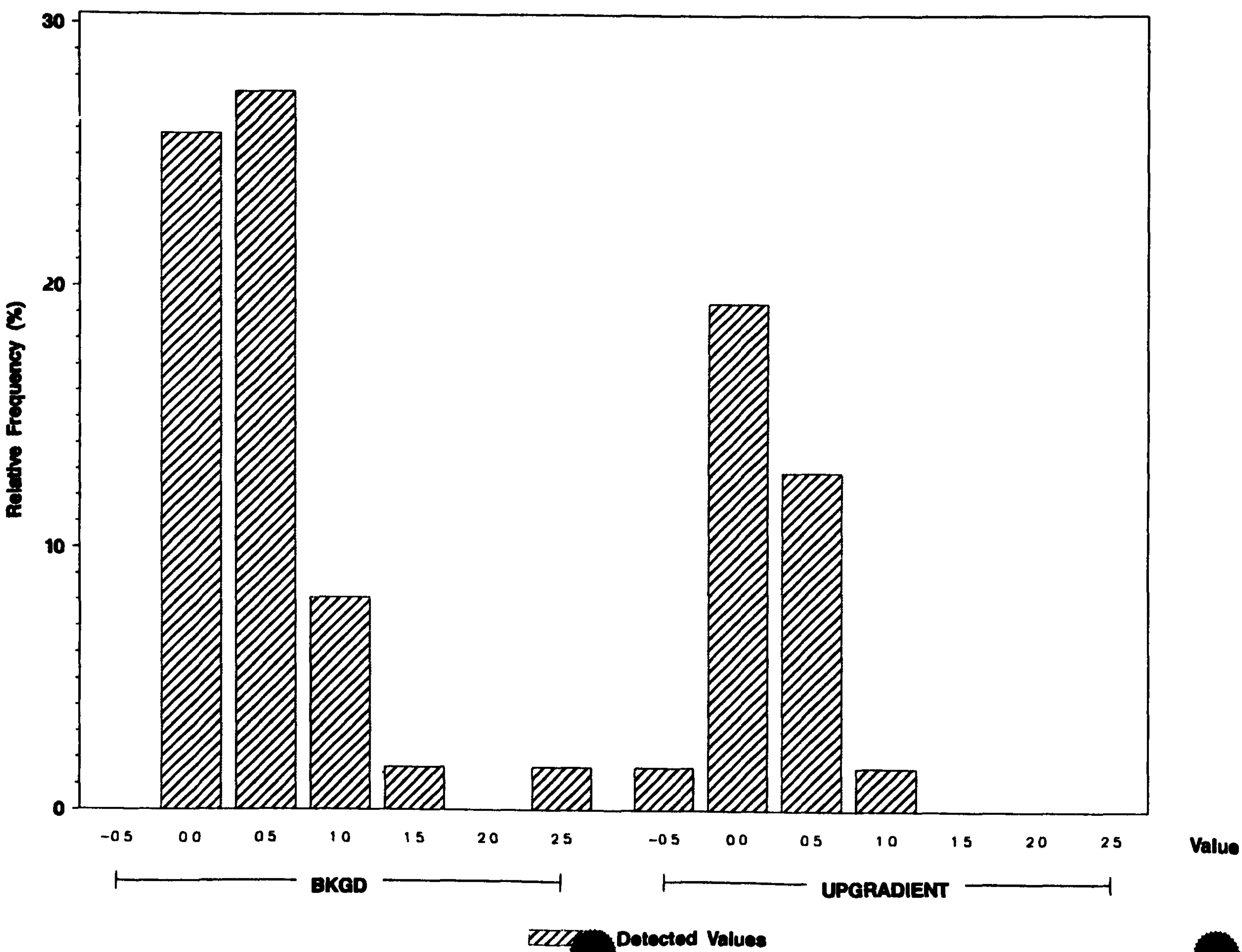
ANALYTE=CESIUM-134



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved CESIUM-137 (pCi/L) in Groundwater

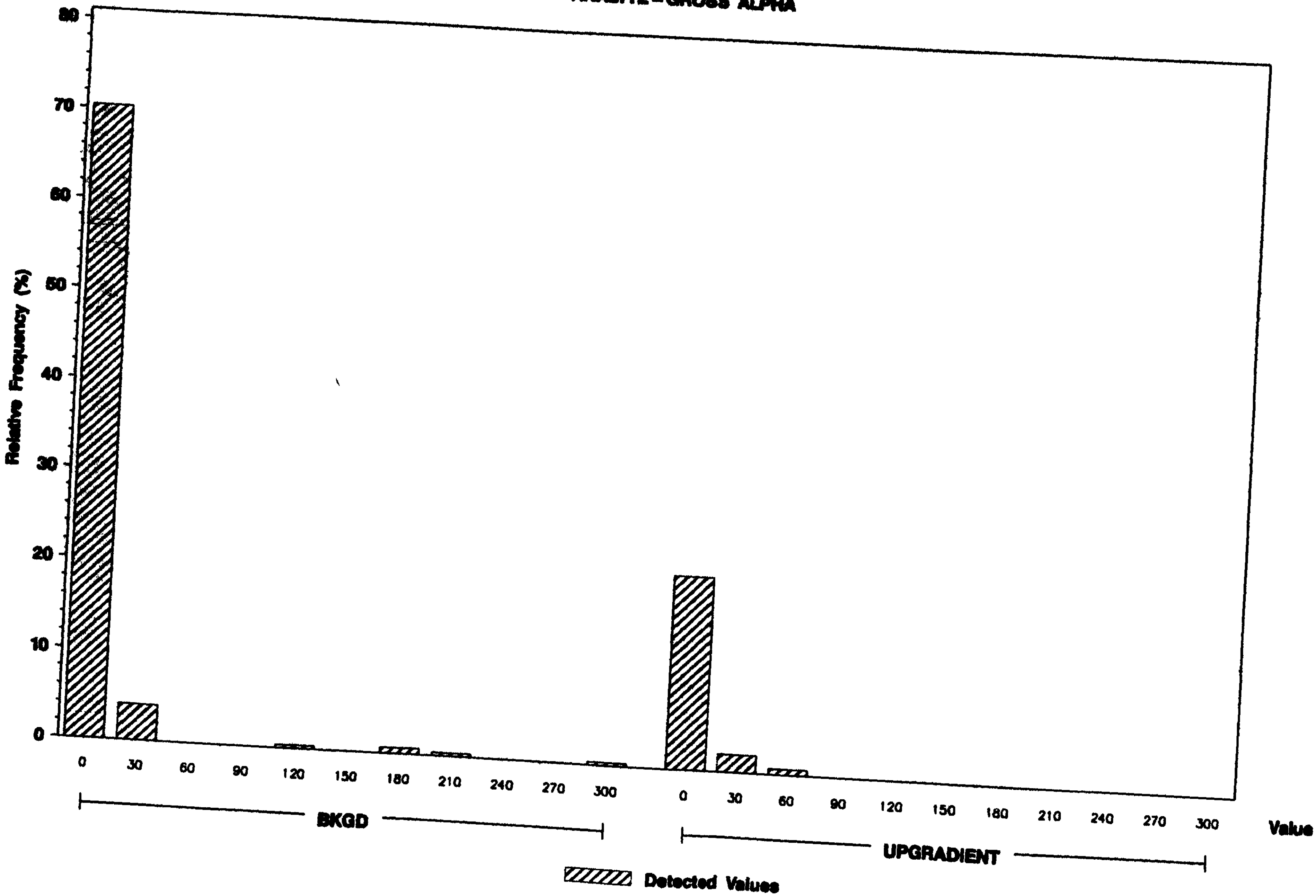
ANALYTE=CESIUM-137



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved GROSS ALPHA (pCI/L) in Groundwater

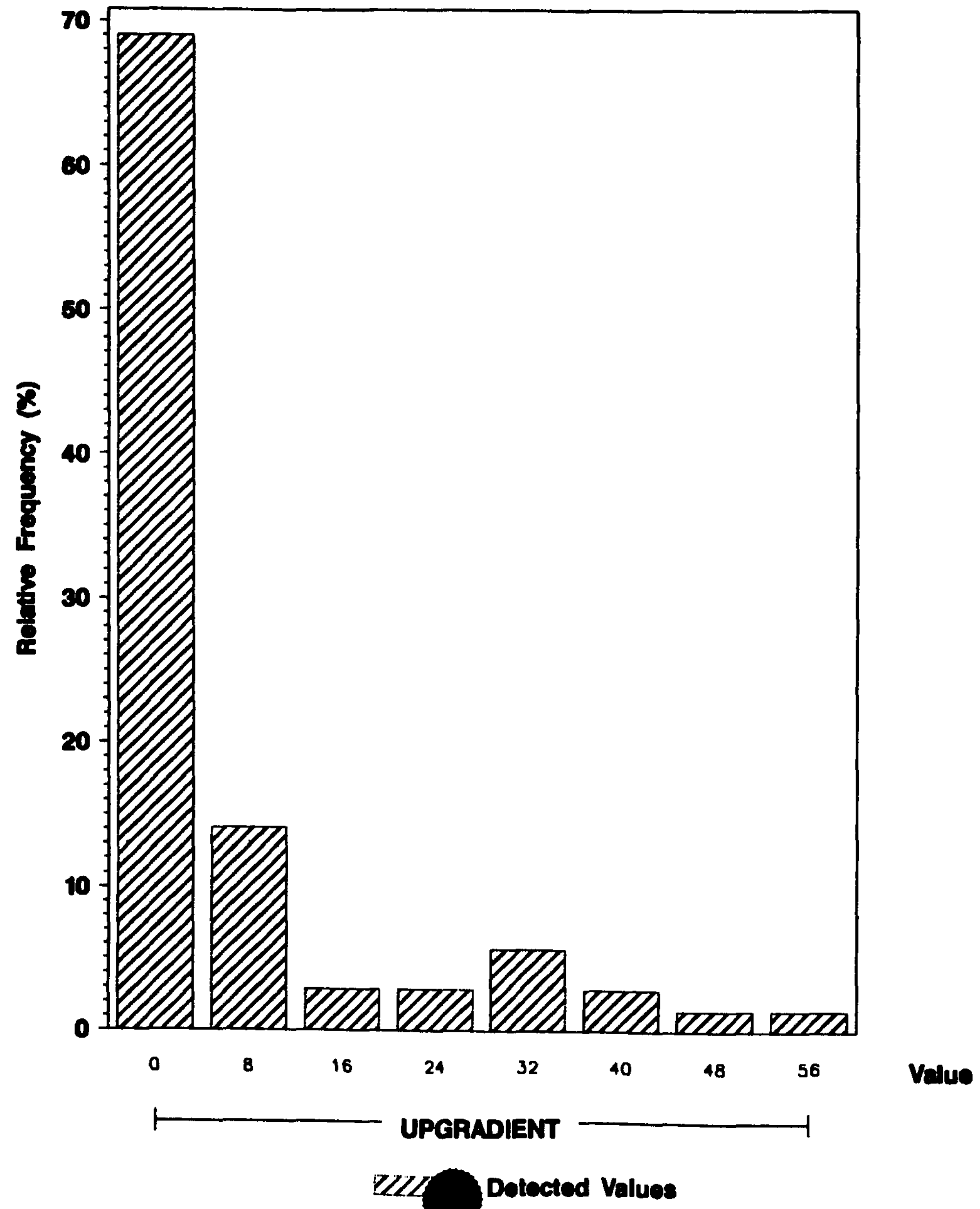
ANALYTE=GROSS ALPHA



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved GROSS ALPHA - DISSOLVED (pCi/L) in Groundwater

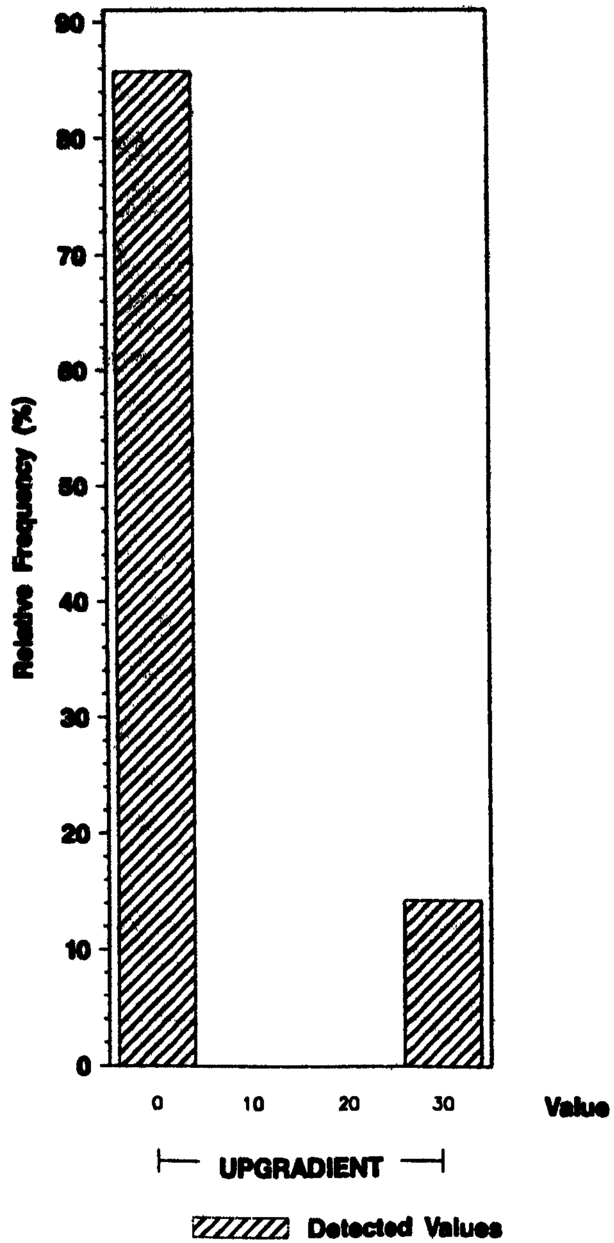
ANALYTE=GROSS ALPHA - DISSOLVED



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved GROSS ALPHA – SUSPENDED (pCi/L) in Groundwater

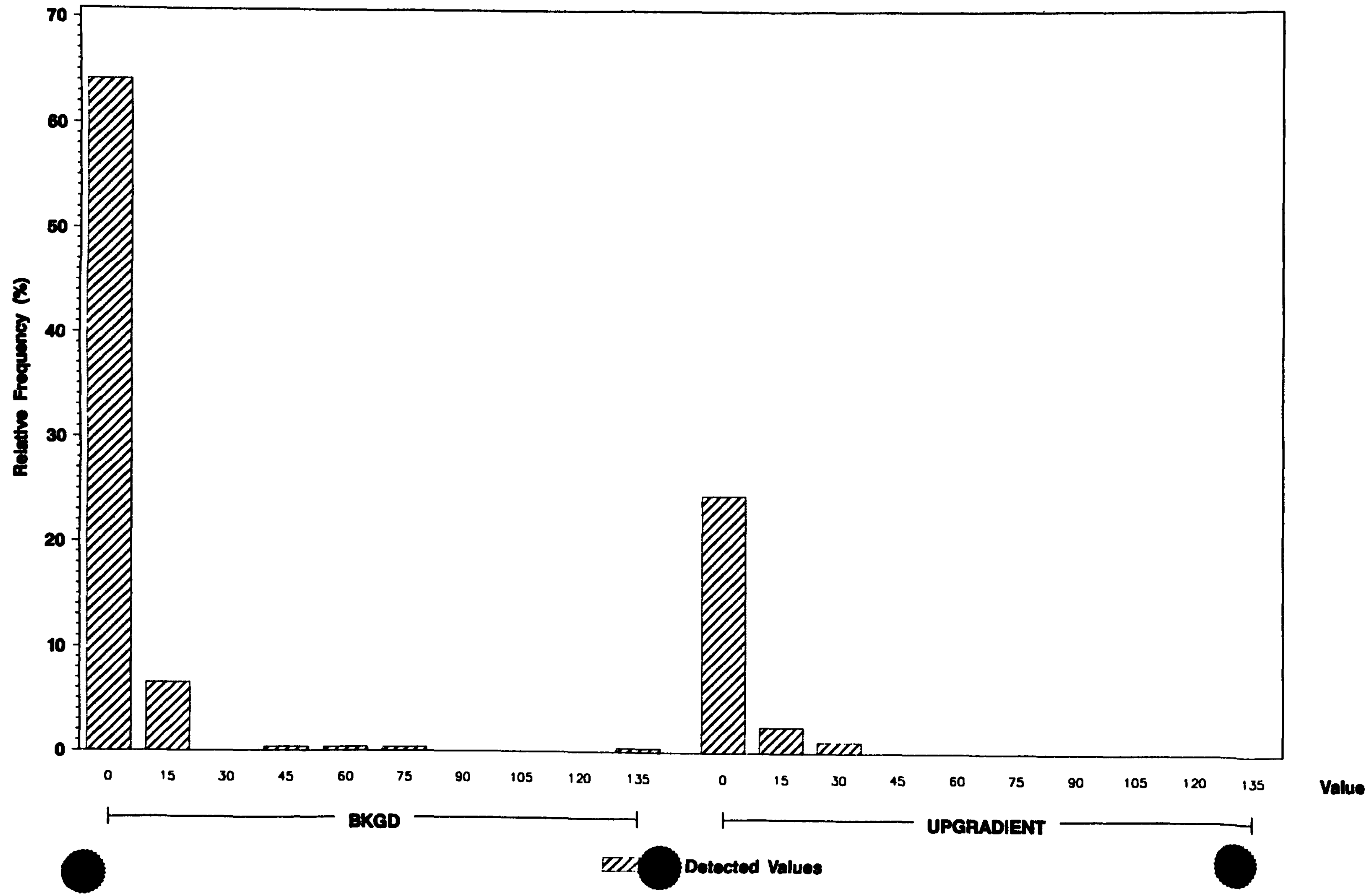
ANALYTE = GROSS ALPHA – SUSPENDED



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved GROSS BETA (pCi/L) in Groundwater

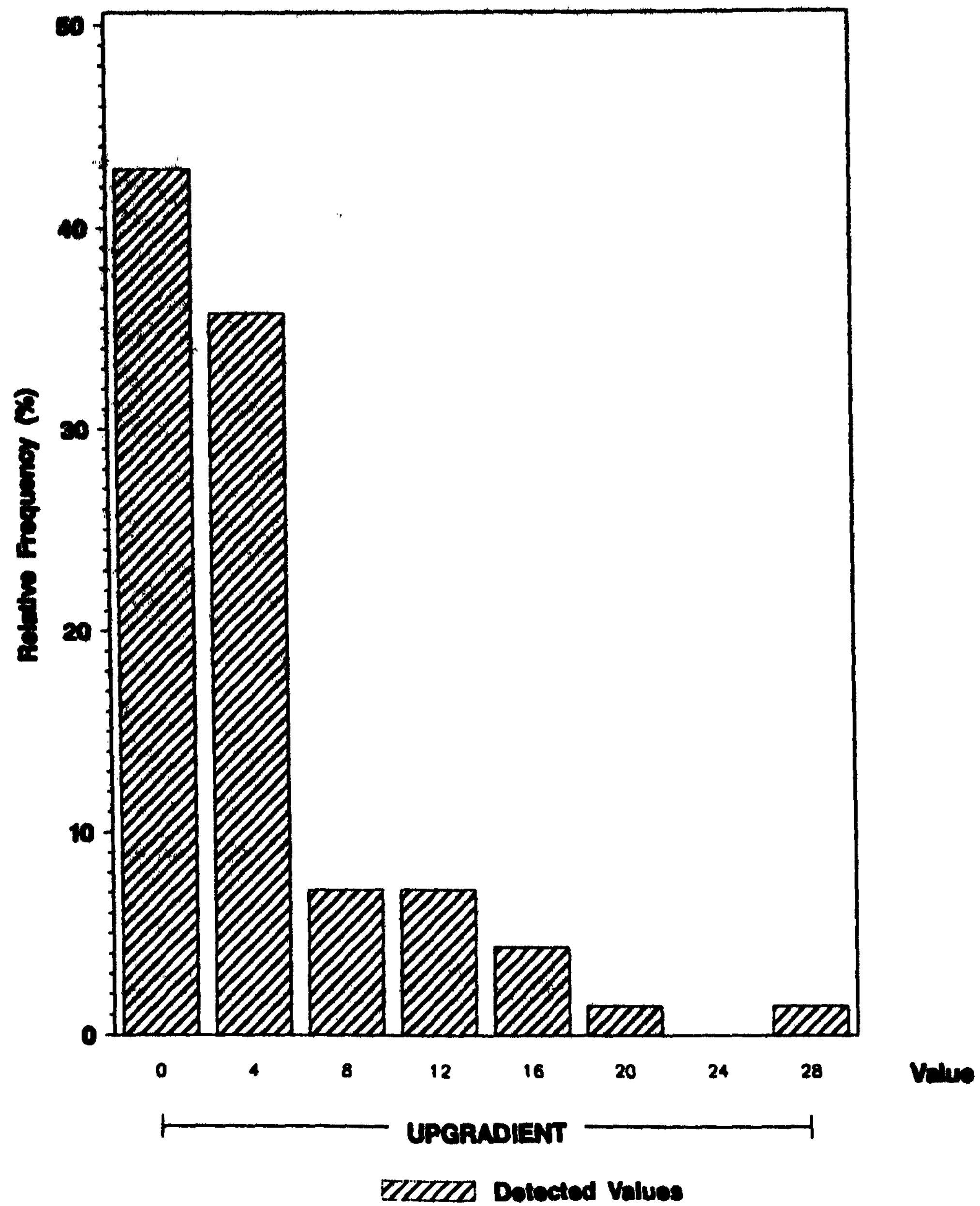
ANALYTE=GROSS BETA



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved GROSS BETA - DISSOLVED (pCi/L) in Groundwater

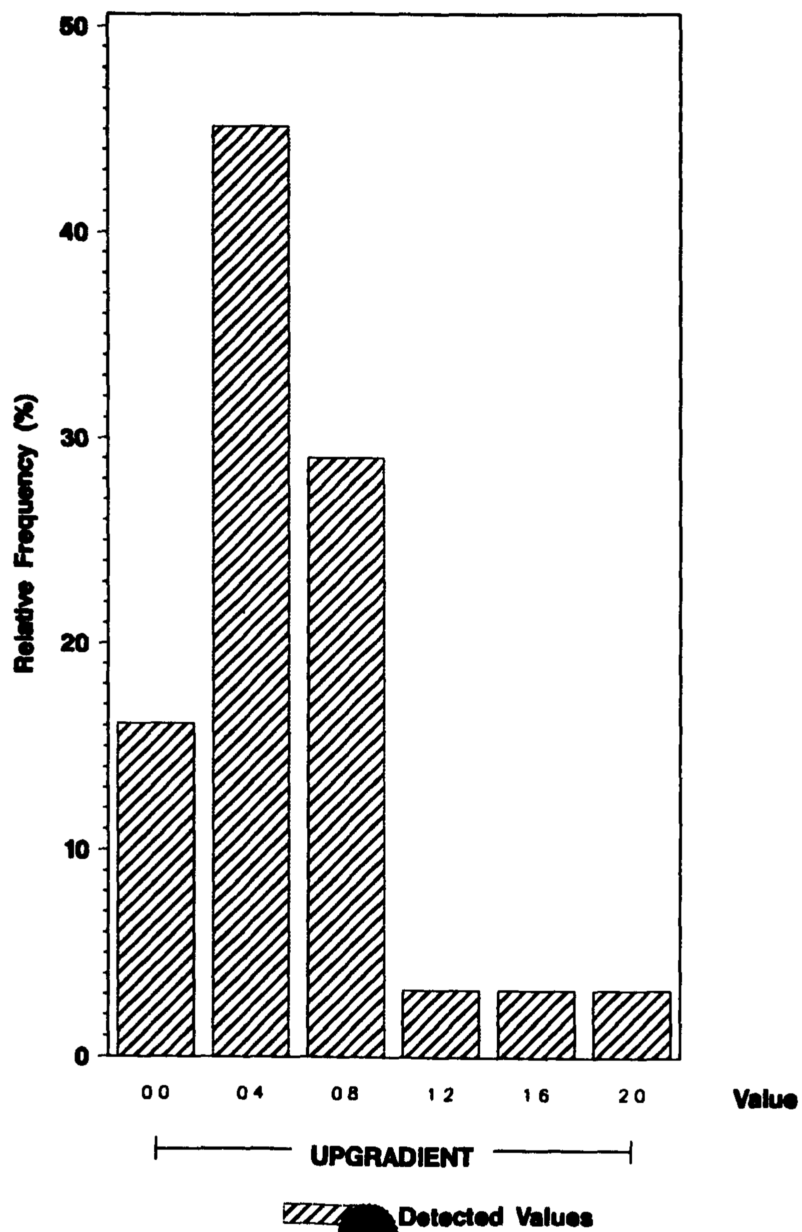
ANALYTE=GROSS BETA - DISSOLVED



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved TOTAL RADIOCESIUM (pCi/L) in Groundwater

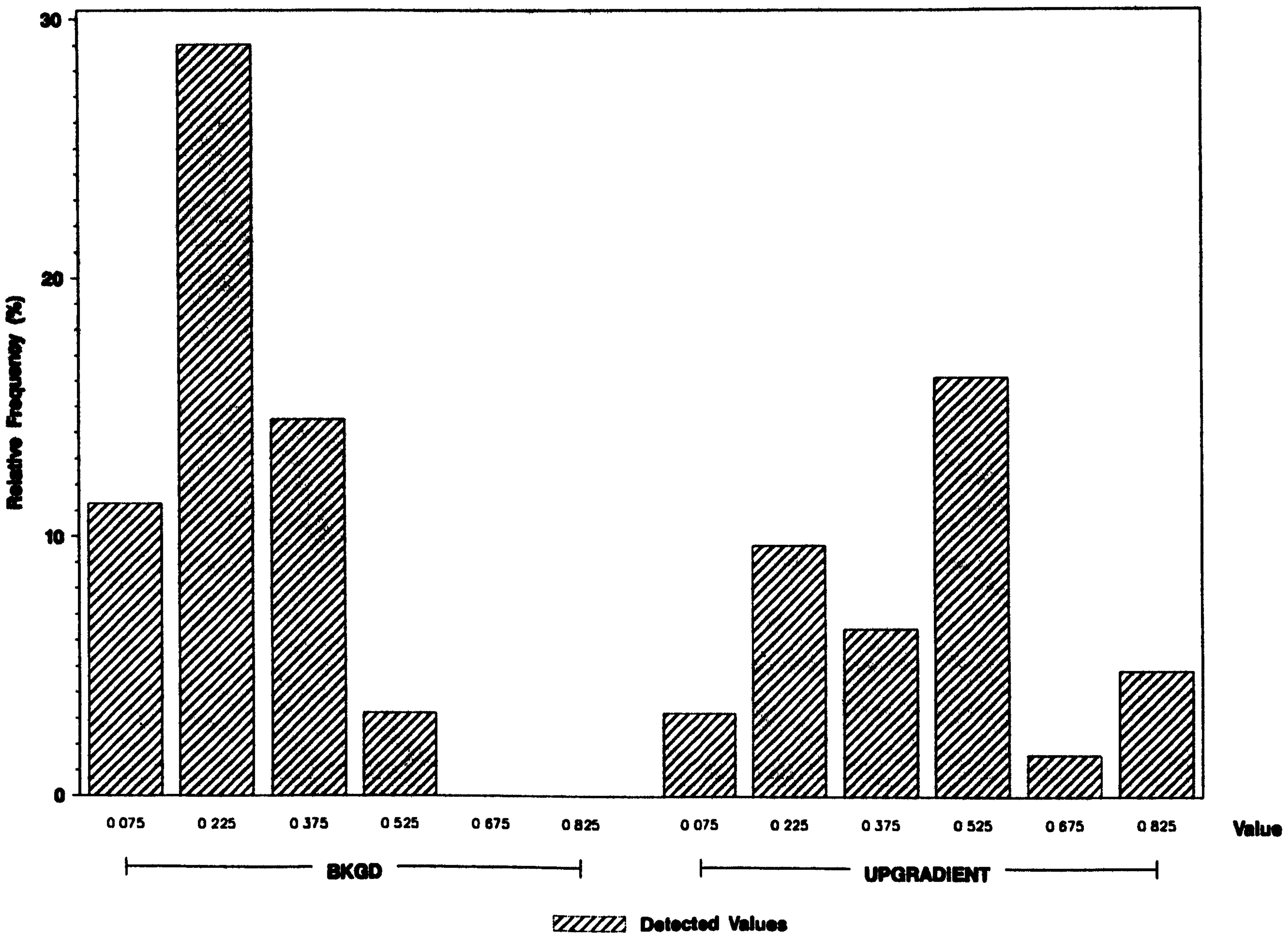
ANALYTE=TOTAL RADIOCESIUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved RADIUM-226 (pCi/L) in Groundwater

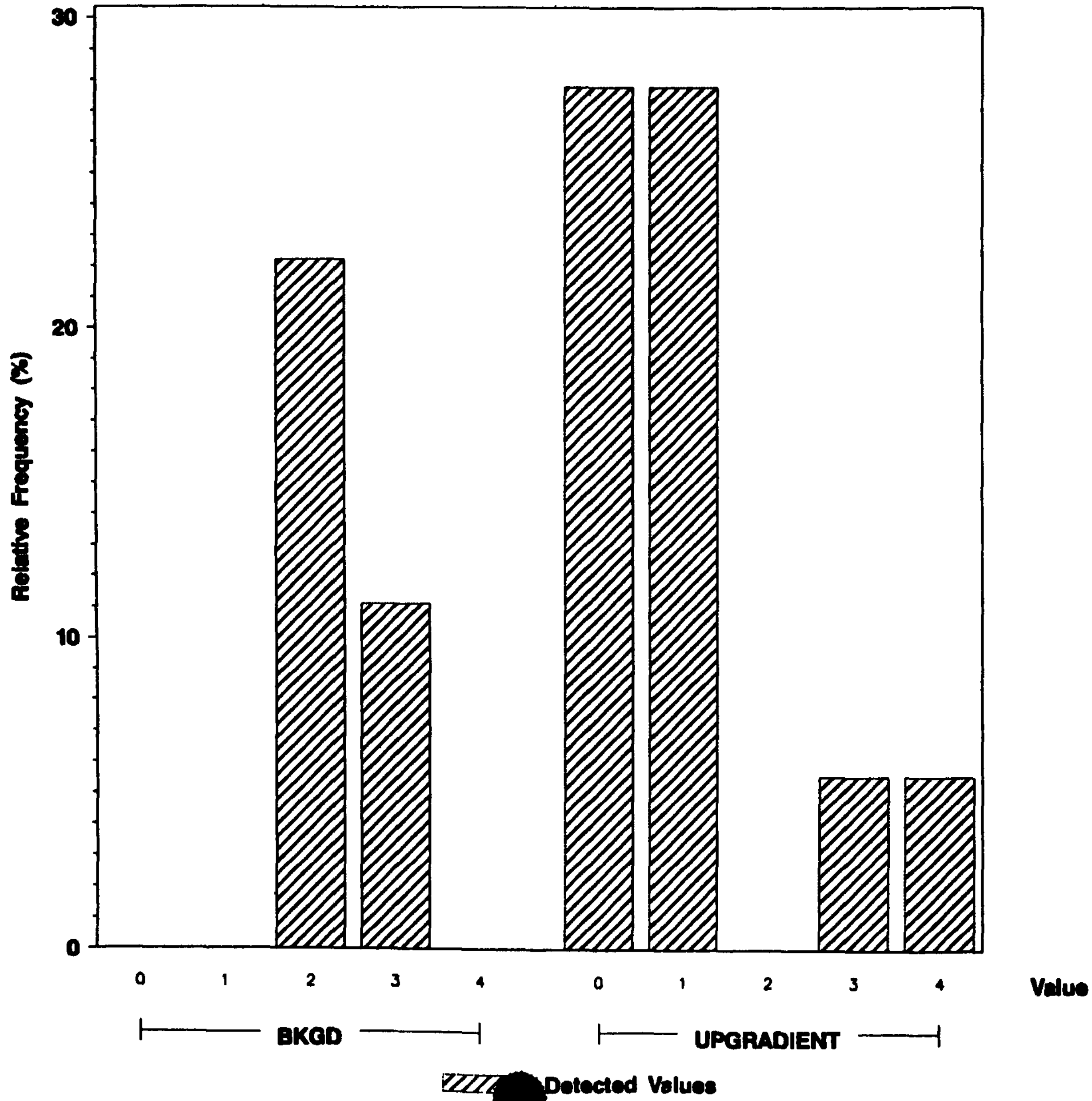
ANALYTE=RADIUM-226



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved RADIUM-228 (pCi/L) in Groundwater

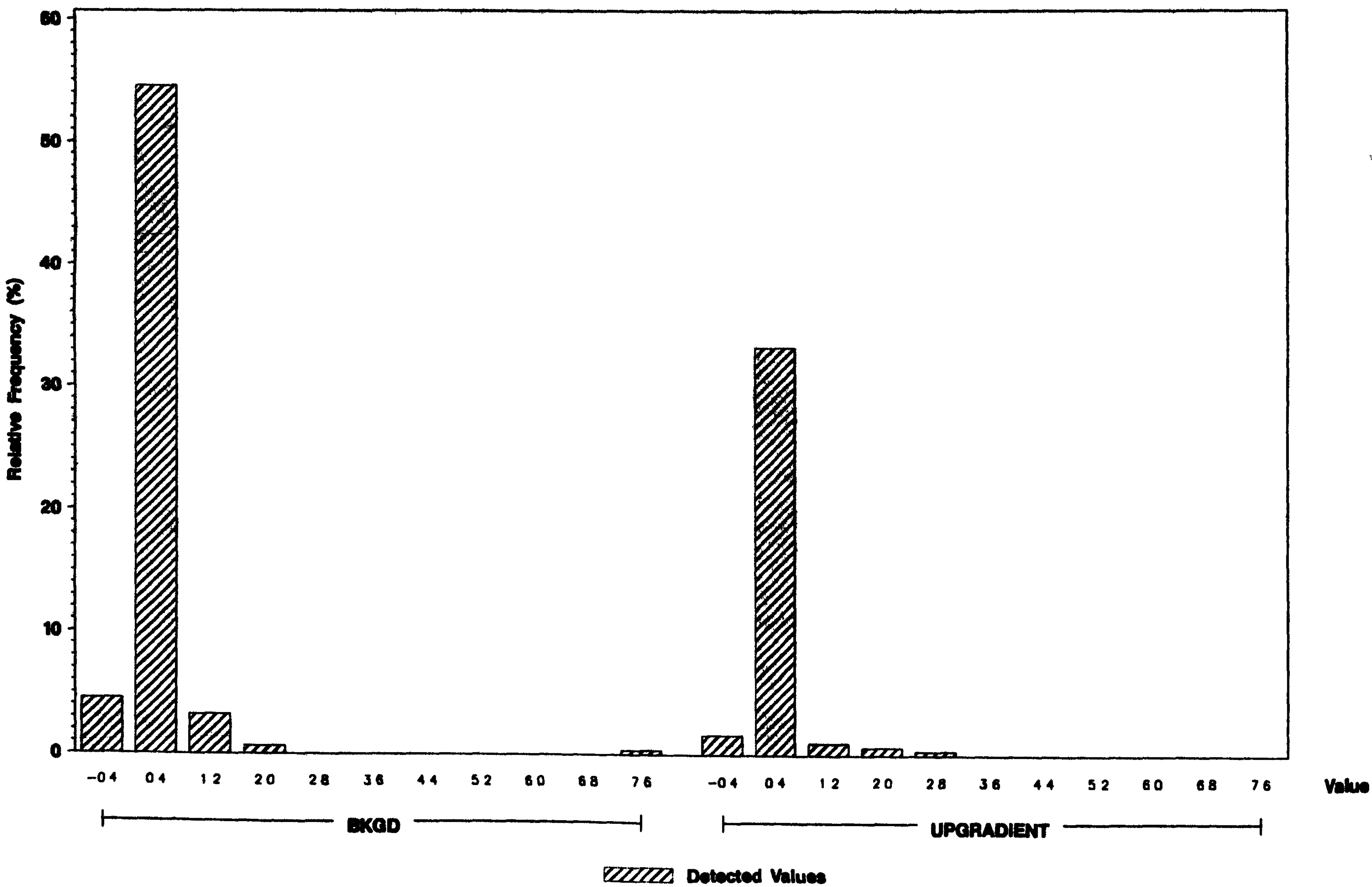
ANALYTE=RADIUM-228



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved STRONTIUM-89,90 (pCi/L) in Groundwater

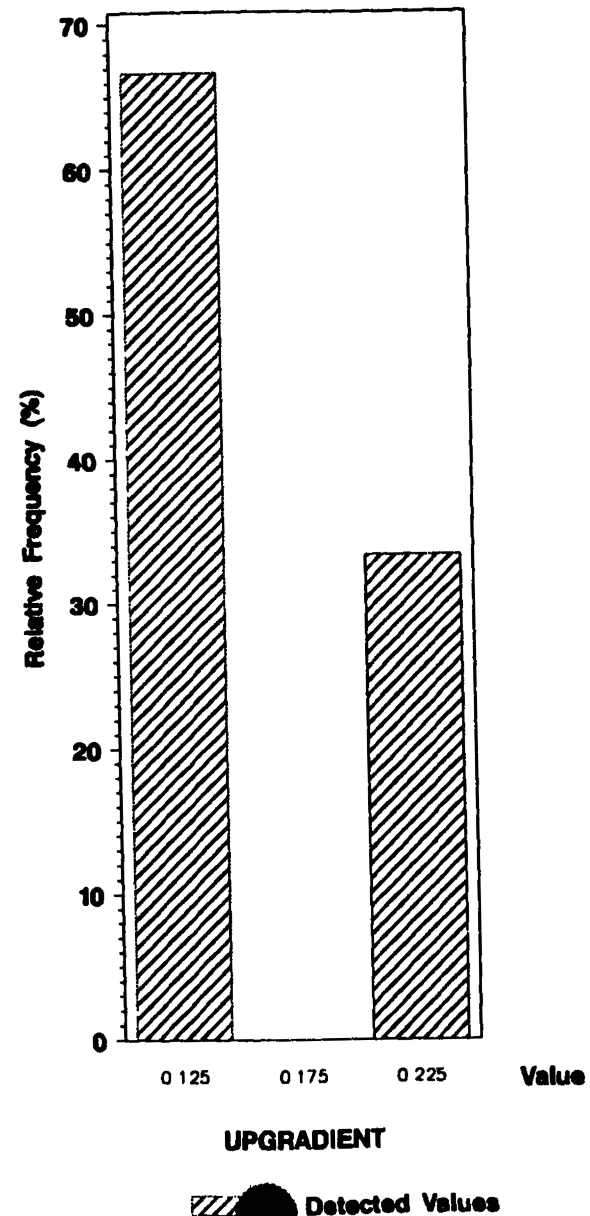
ANALYTE=STRONTIUM-89,90



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved STRONTIUM-90 (pCi/L) in Groundwater

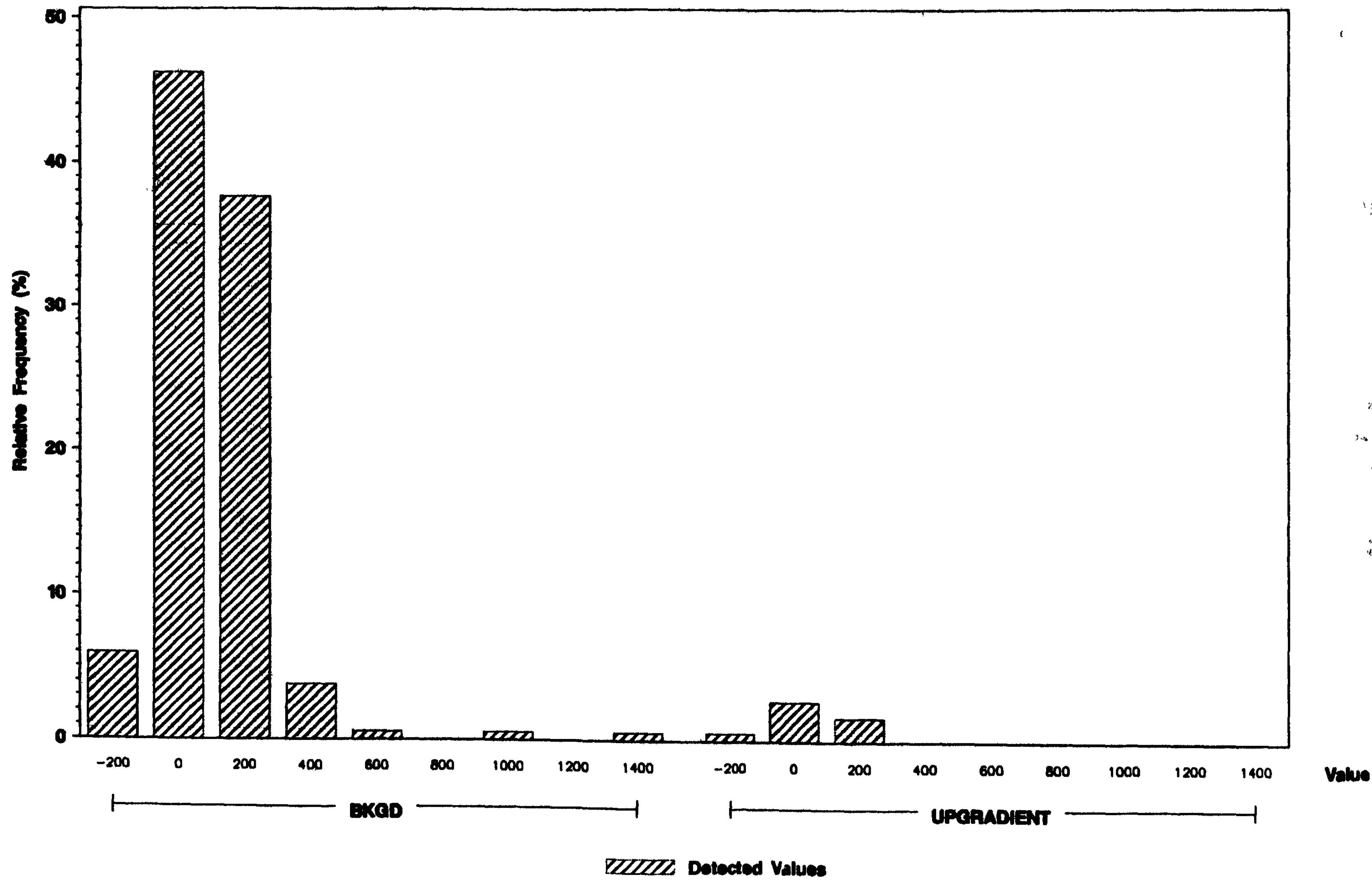
ANALYTE=STRONTIUM-90



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved TRITIUM (pCi/L) in Groundwater

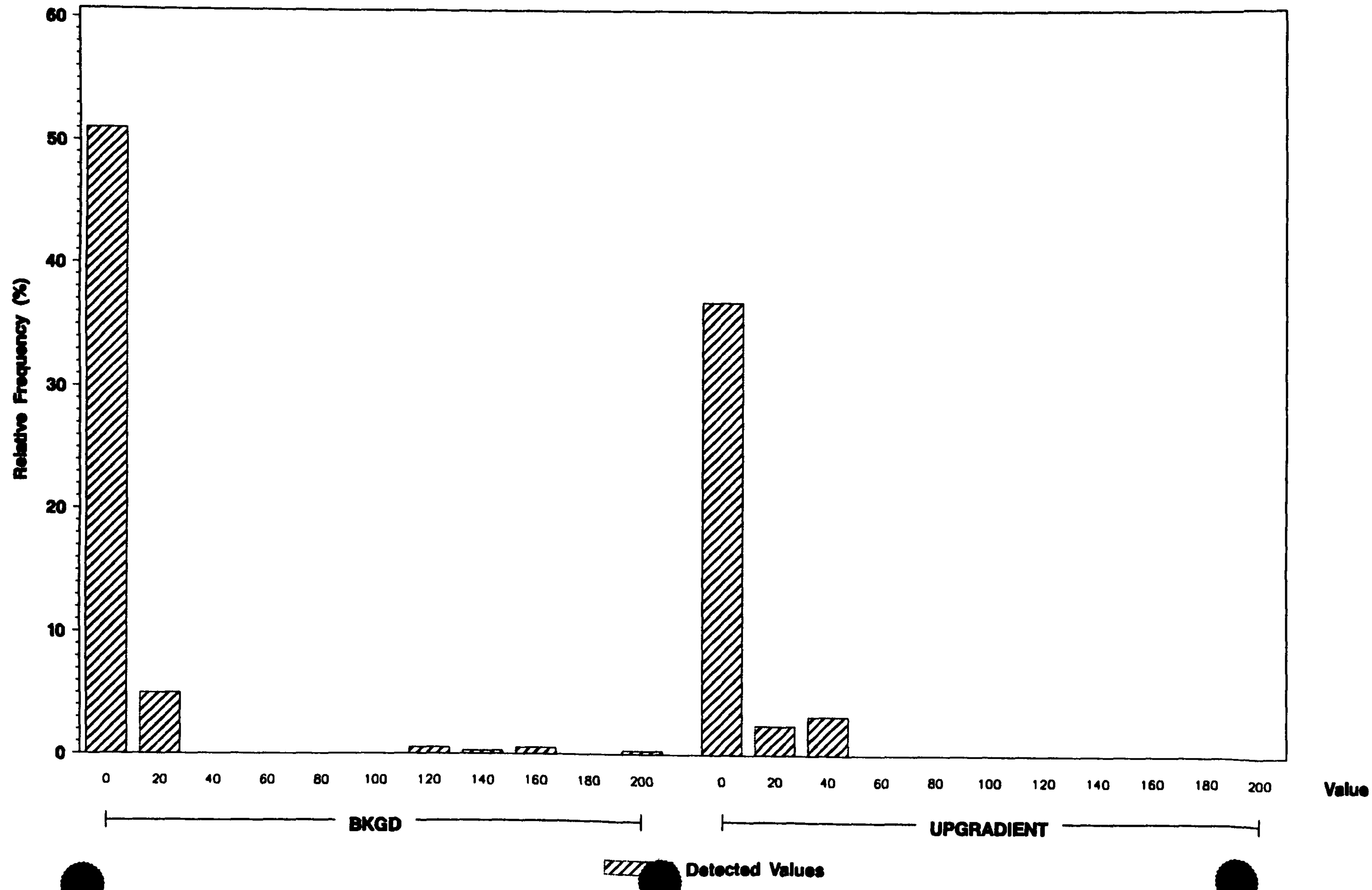
ANALYTE = TRITIUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved URANIUM – 233, – 234 (pCi/L) in Groundwater

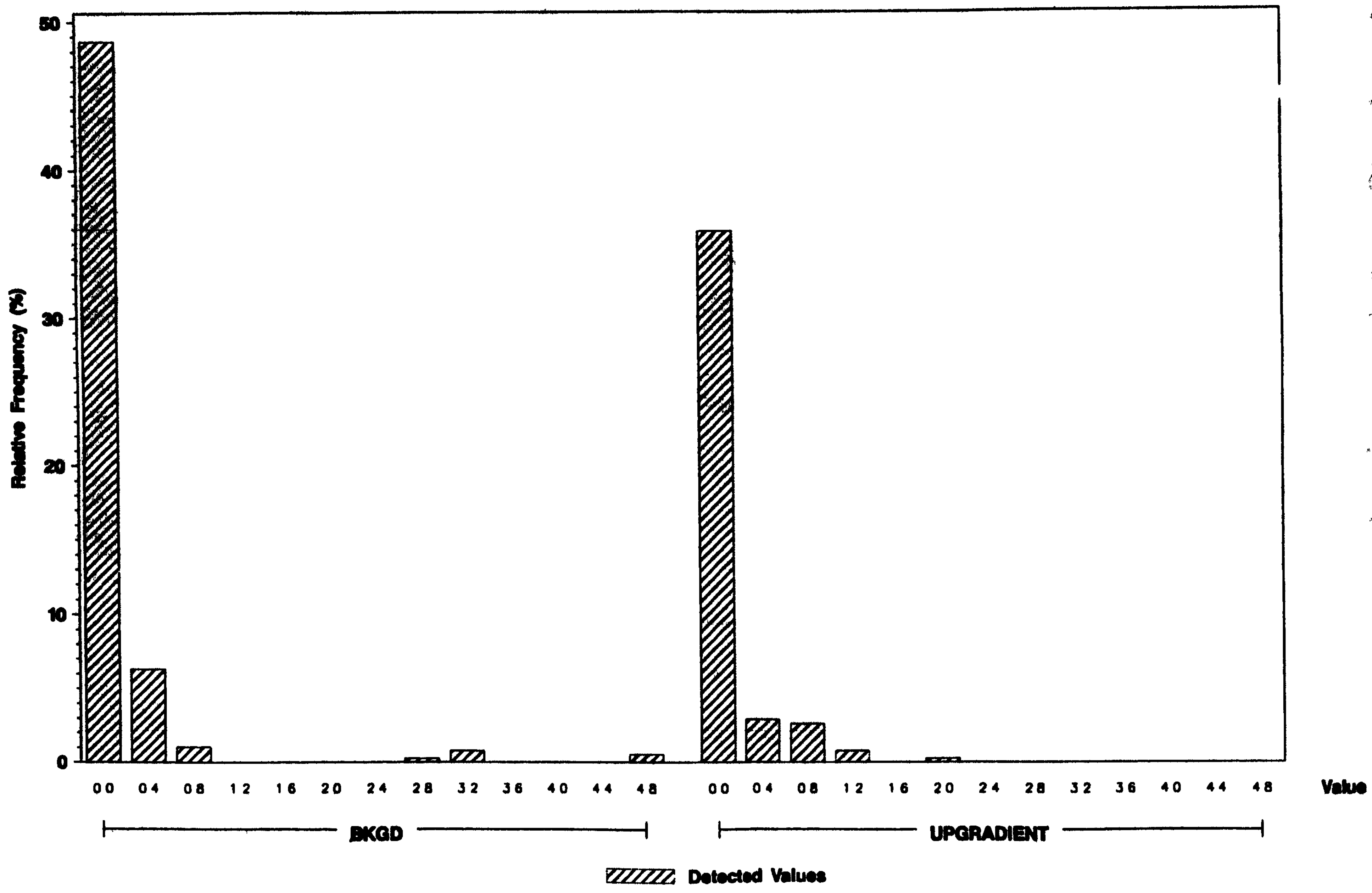
ANALYTE = URANIUM – 233, – 234



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved URANIUM-235 (pCi/L) in Groundwater

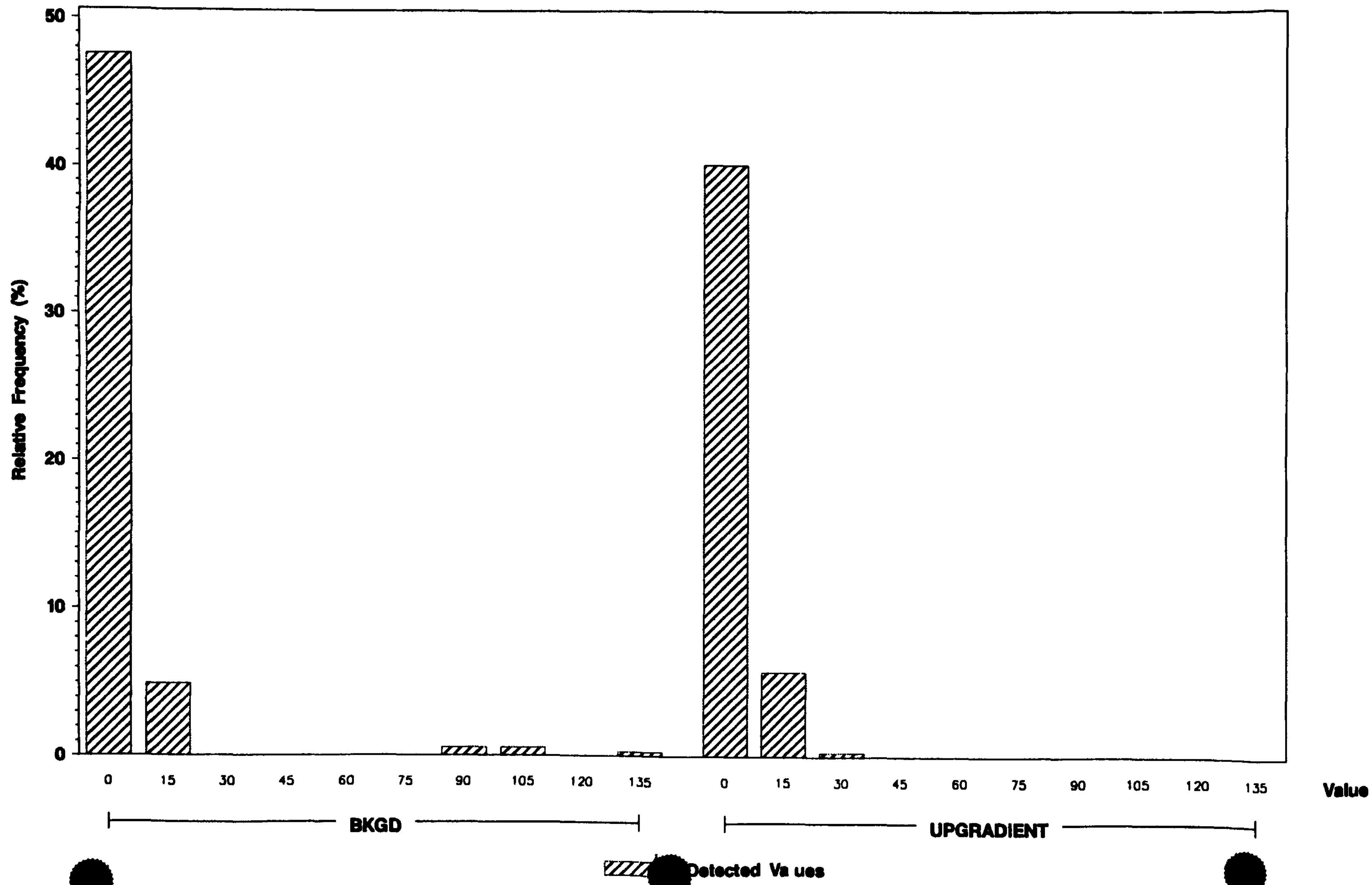
ANALYTE=URANIUM-235



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Dissolved URANIUM-238 (pCi/L) in Groundwater

ANALYTE=URANIUM-238

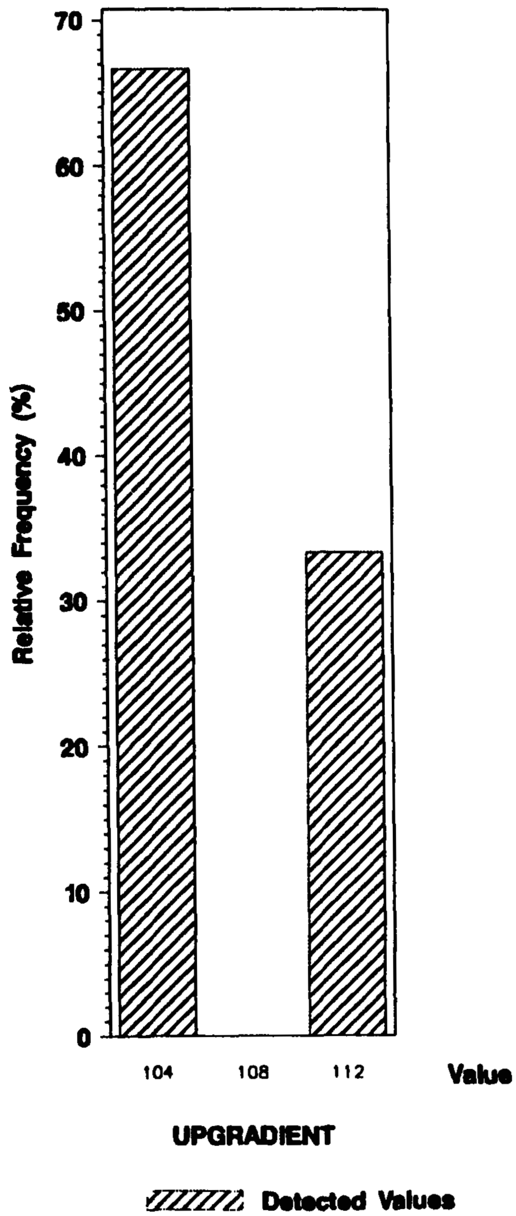


Groundwater

(Total)

Background vs OU 7 Upgradient UHSU

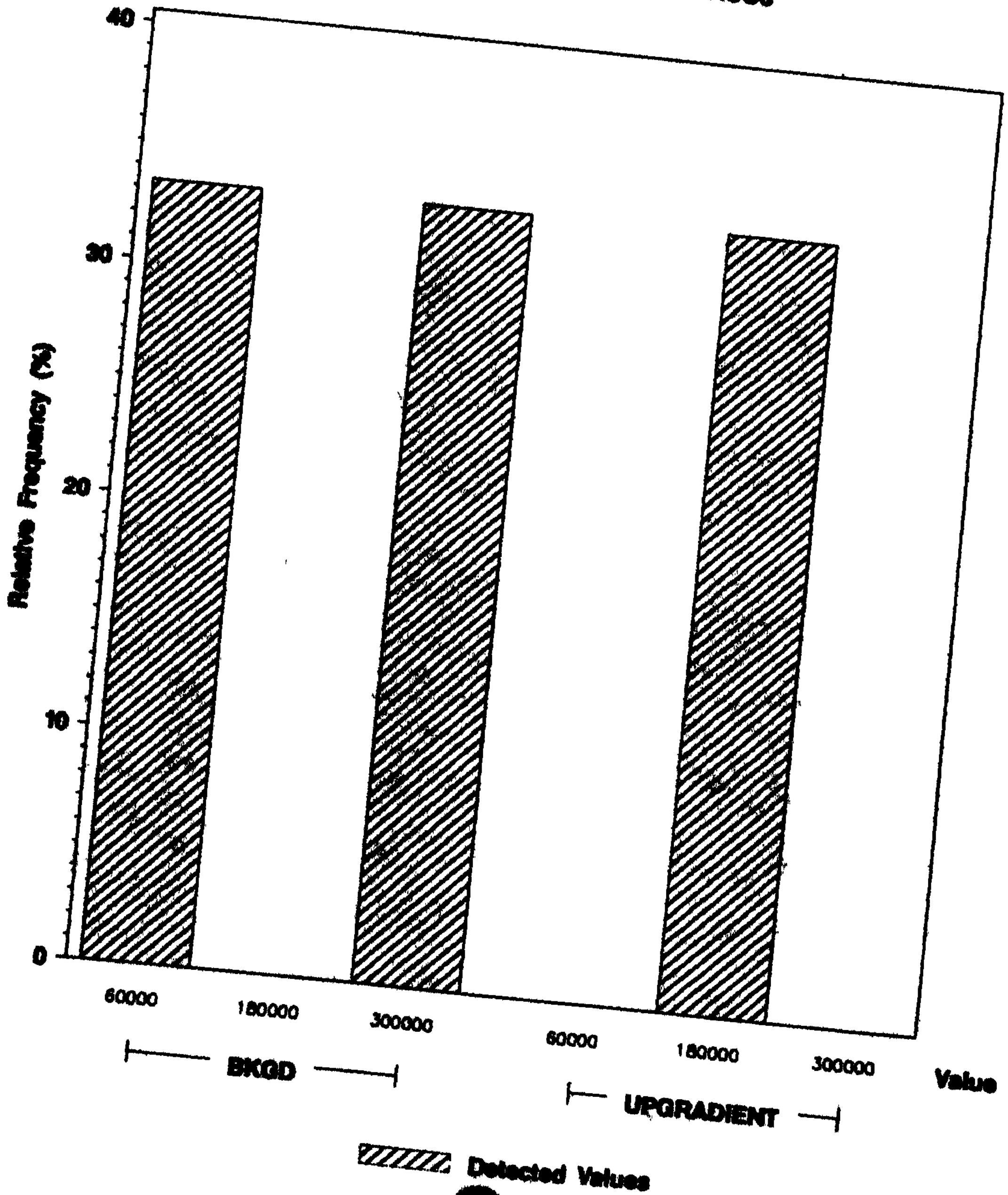
Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram
Total 1,2 DICHLOROETHANE –D4 (ug/L) in Groundwater
ANALYTE=1,2 DICHLOROETHANE –D4



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total ALKALINITY AS CACO3 (ug/L) in Groundwater

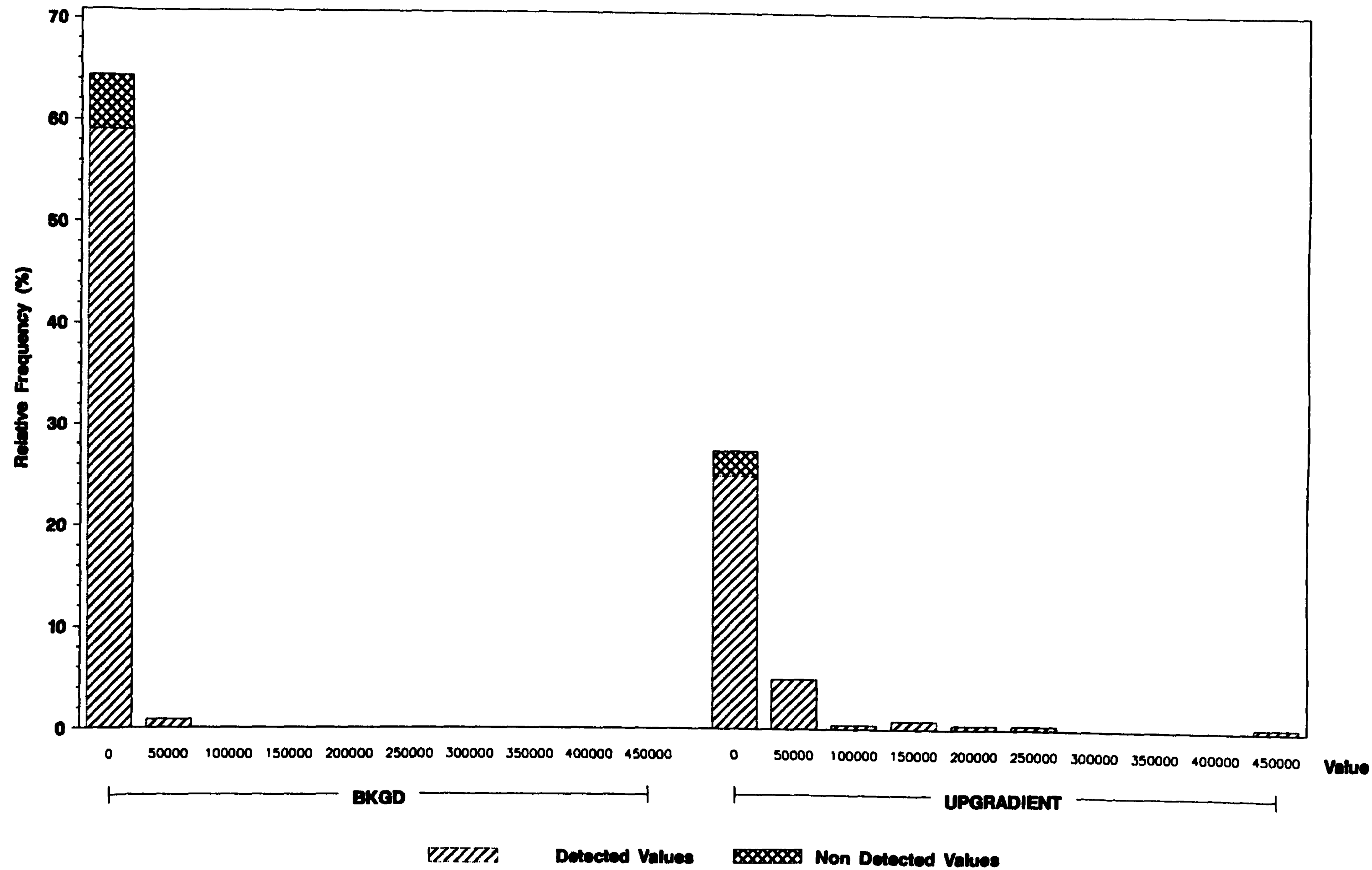
ANALYTE = ALKALINITY AS CACO3



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total ALUMINUM (ug/L) in Groundwater

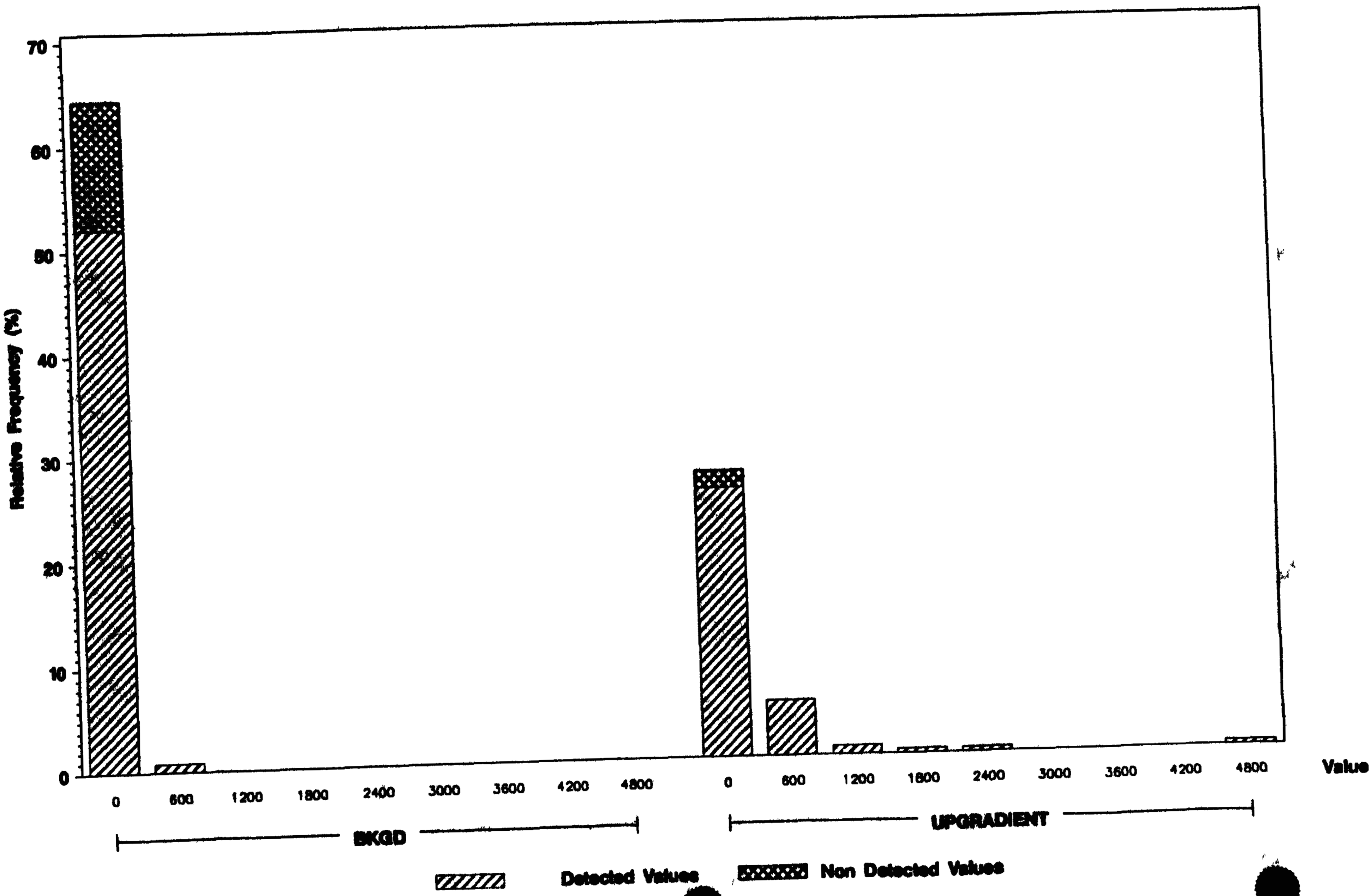
ANALYTE=ALUMINUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total BARIUM (ug/L) in Groundwater

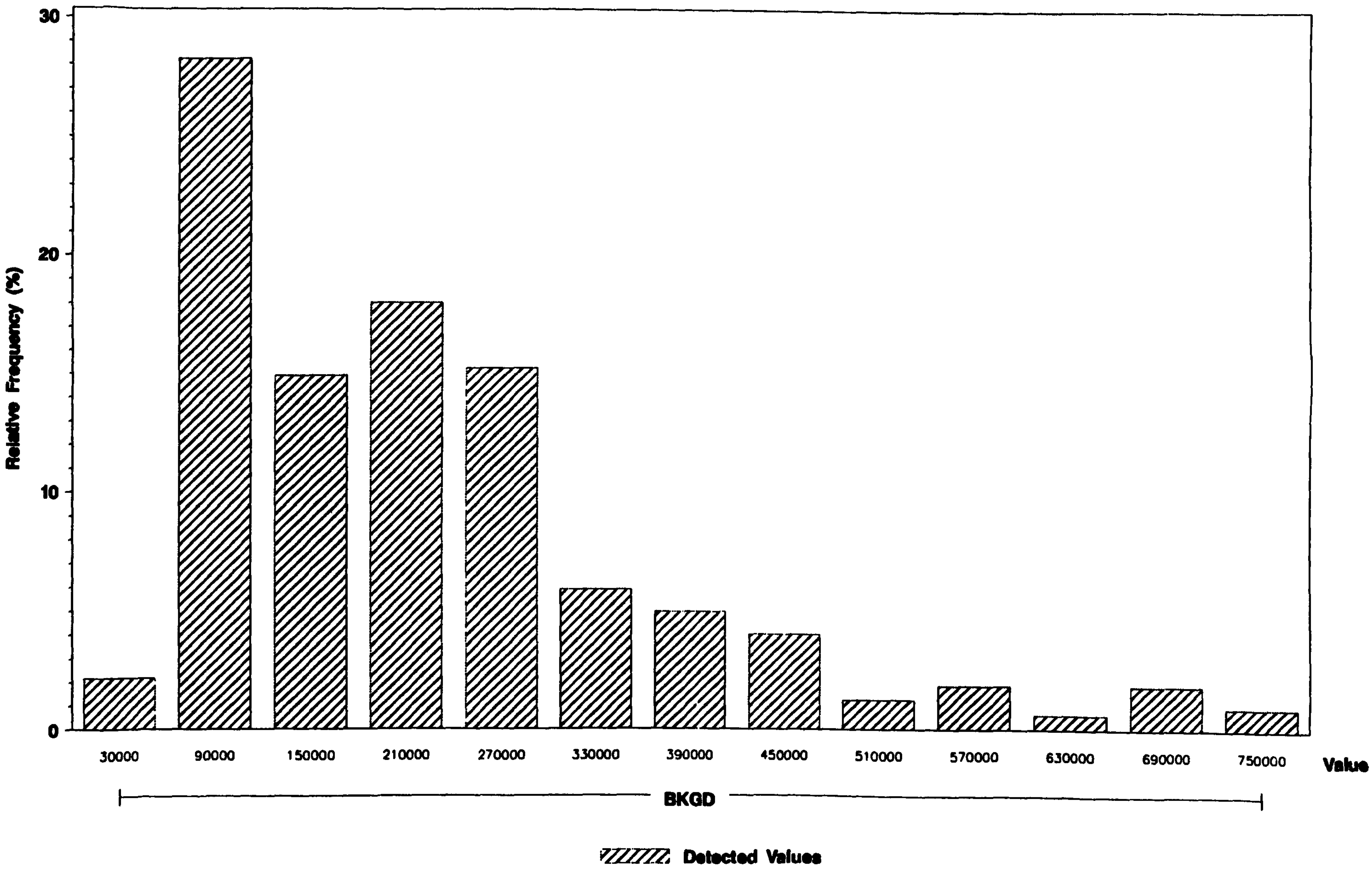
ANALYTE=BARIUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total BICARBONATE (ug/L) in Groundwater

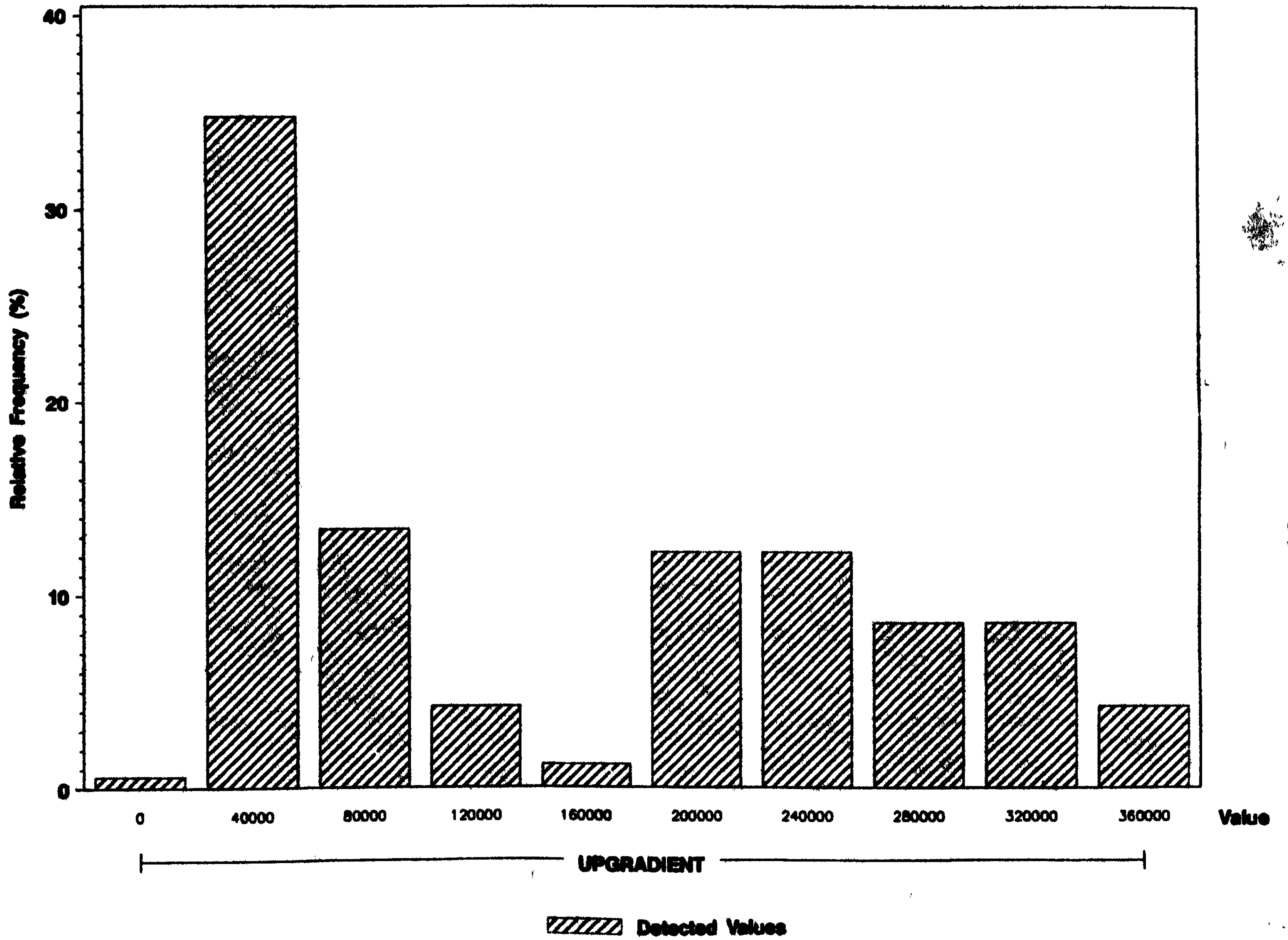
ANALYTE=BICARBONATE



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total BICARBONATE AS CACO3 (ug/L) in Groundwater

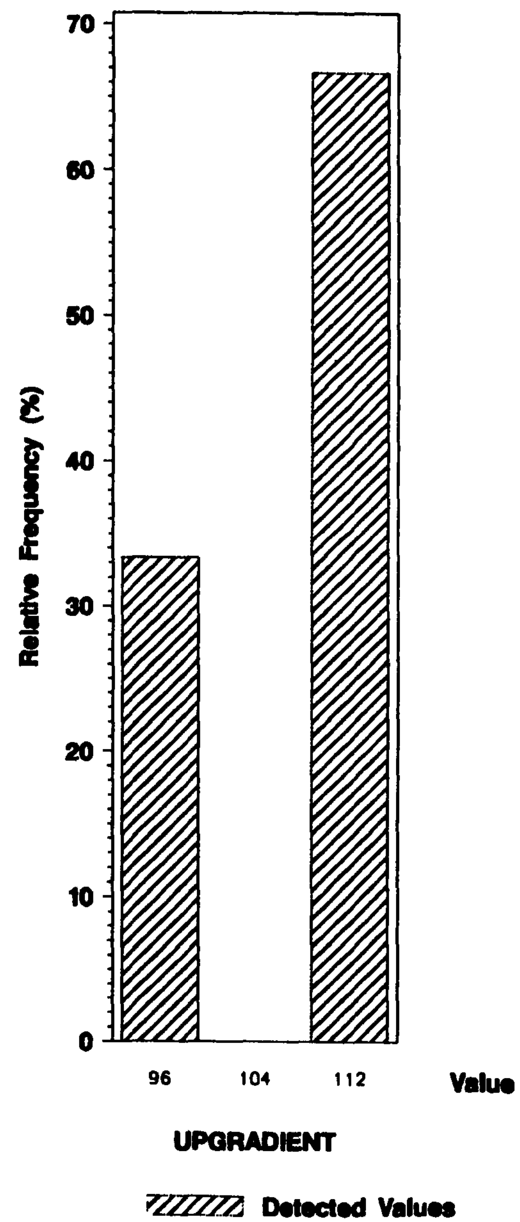
ANALYTE=BICARBONATE AS CACO3



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total BROMOFLUOROBENZENE (ug/L) in Groundwater

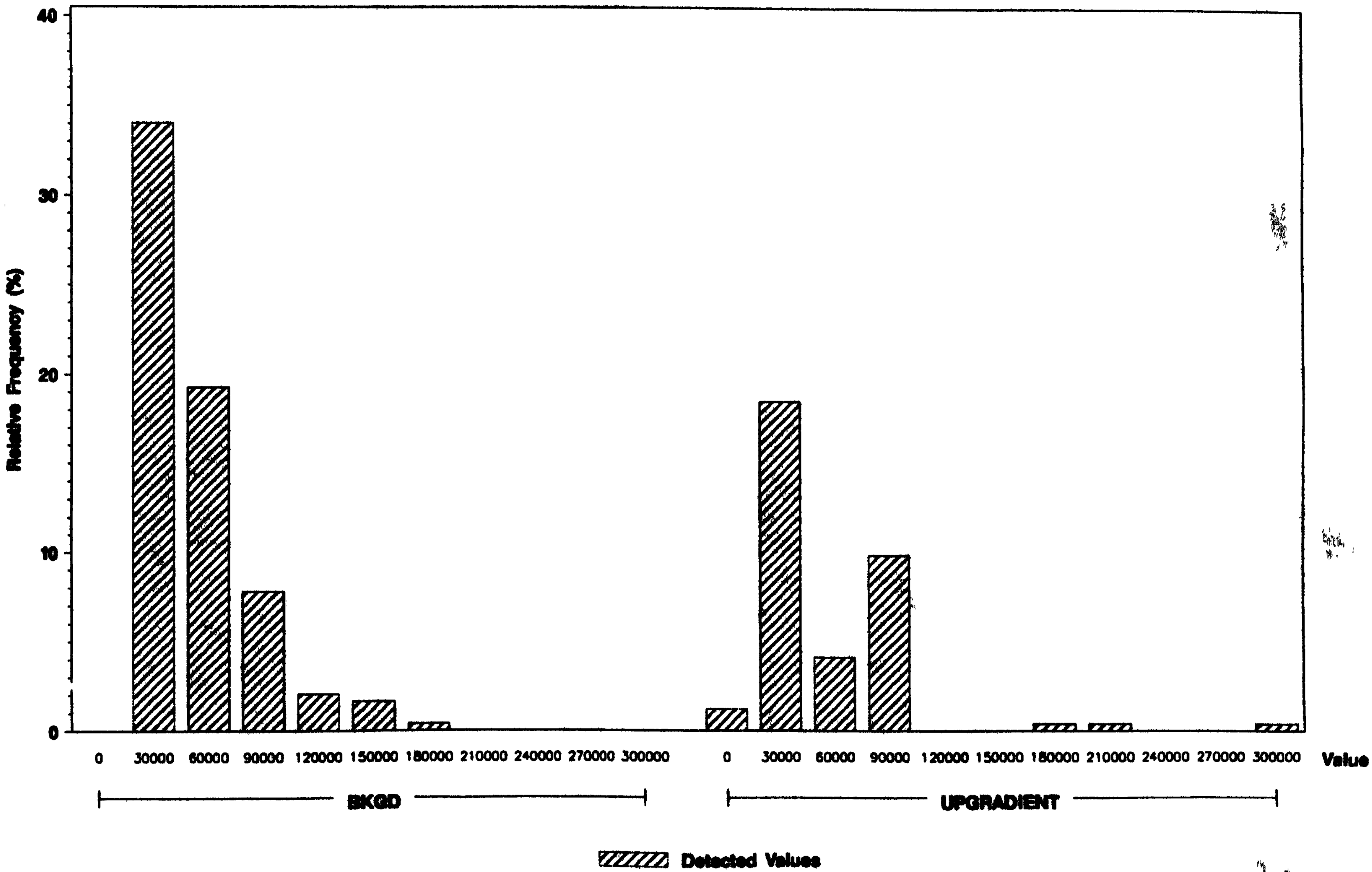
ANALYTE = BROMOFLUOROBENZENE



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total CALCIUM (ug/L) in Groundwater

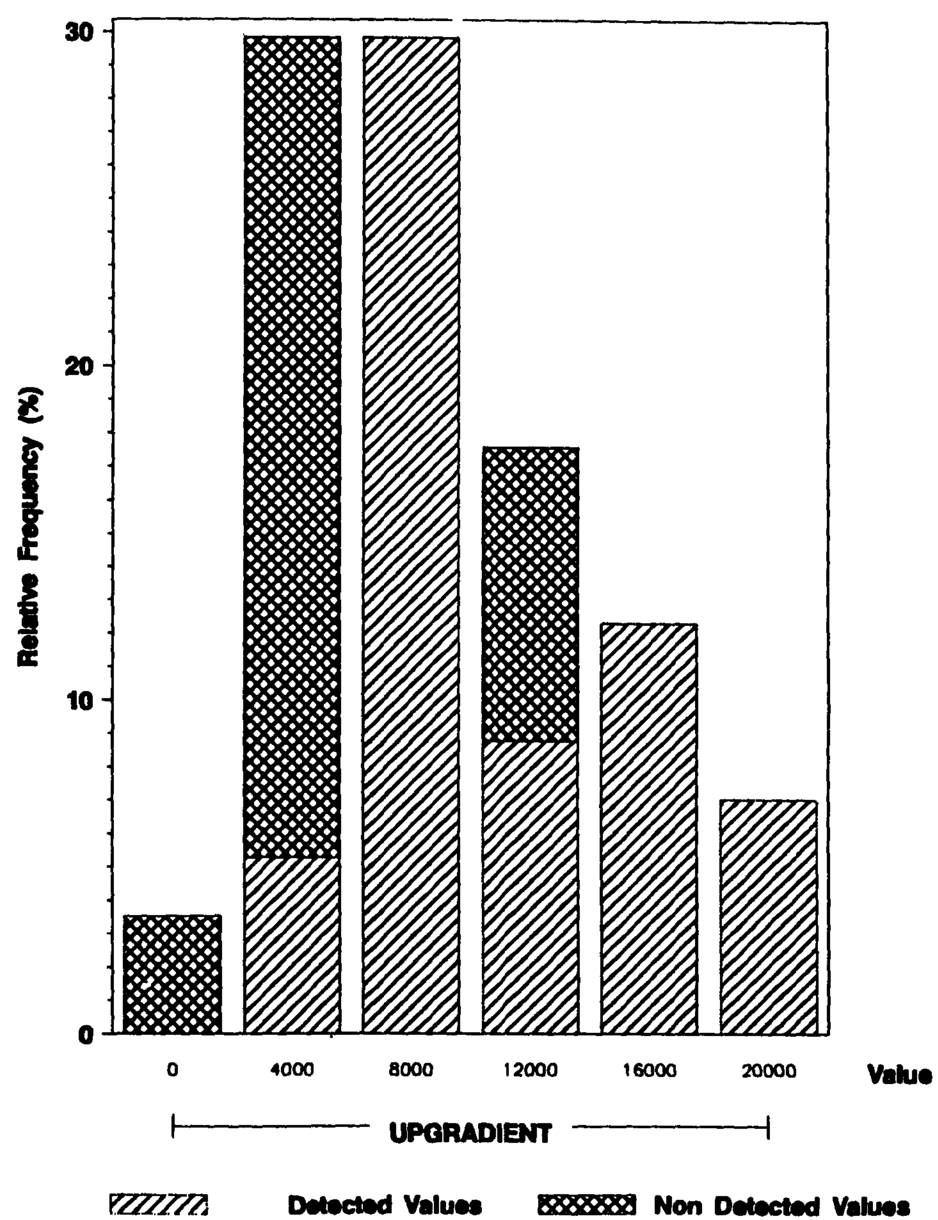
ANALYTE=CALCIUM



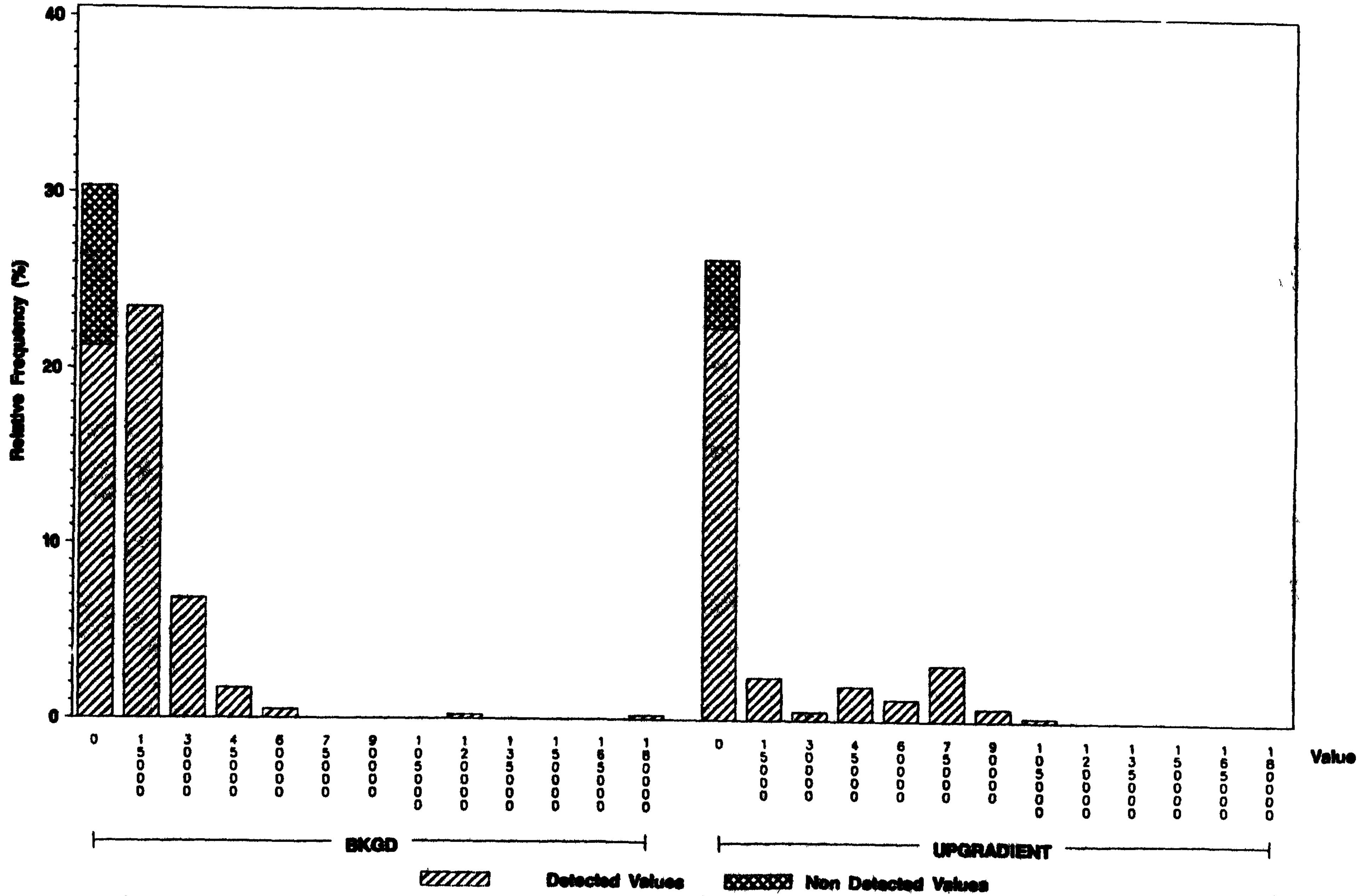
Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total CHEMICAL OXYGEN DEMAND (ug/L) in Groundwater

ANALYTE=CHEMICAL OXYGEN DEMAND



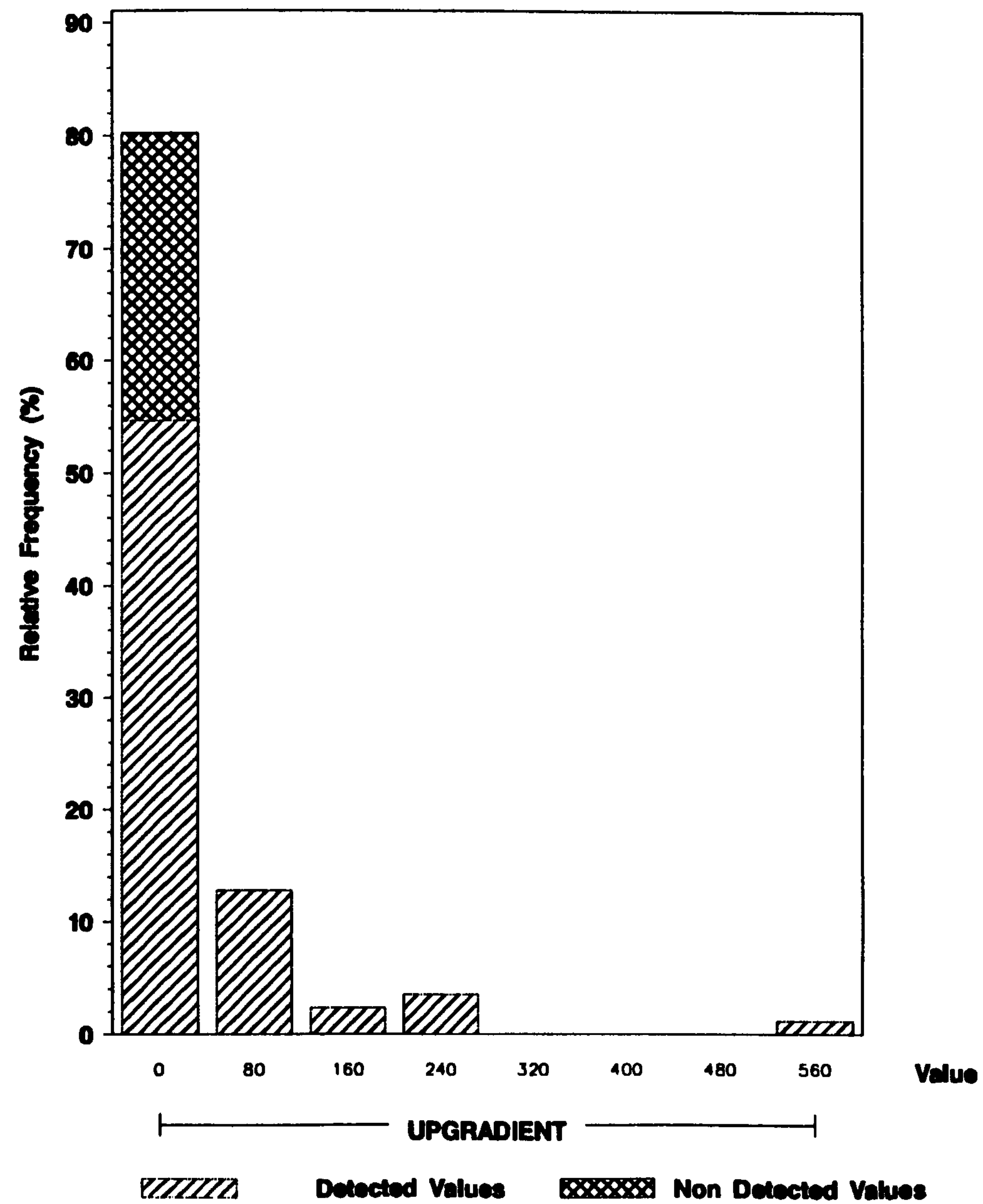
Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram
Total CHLORIDE (ug/L) in Groundwater
ANALYTE=CHLORIDE



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total CHROMIUM (ug/L) in Groundwater

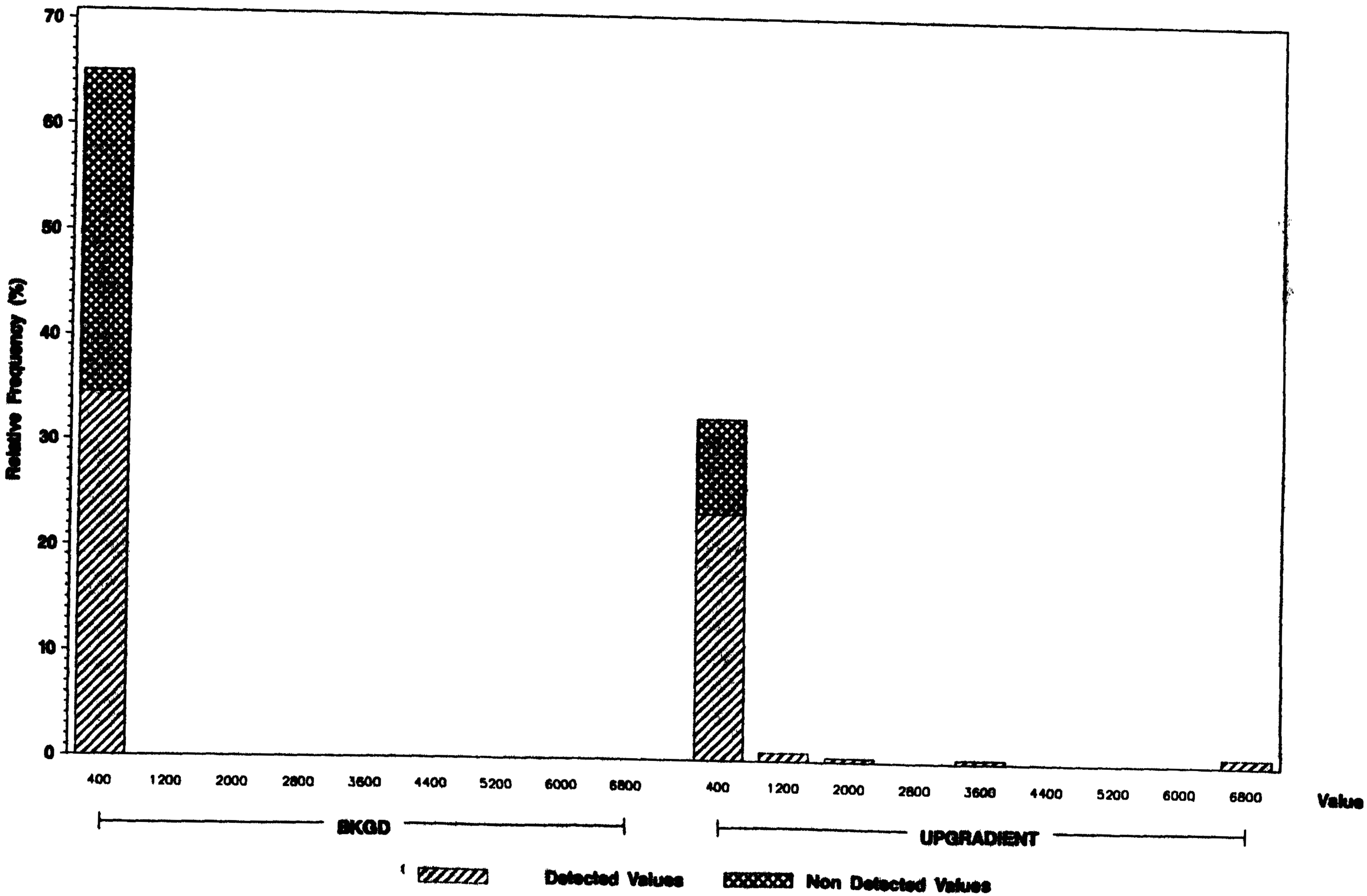
ANALYTE = CHROMIUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total COPPER (ug/L) in Groundwater

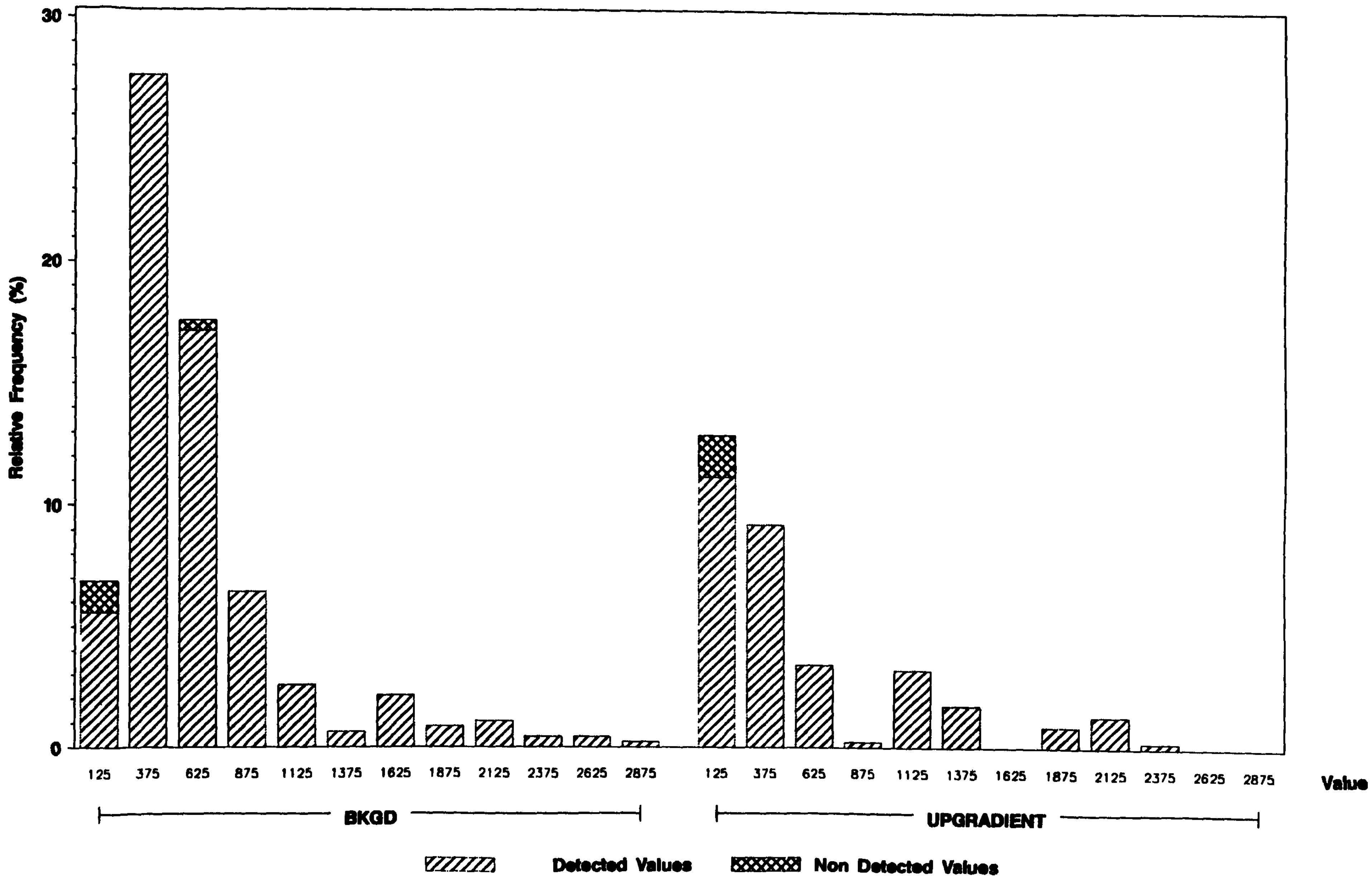
ANALYTE=COPPER



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total FLUORIDE (ug/L) in Groundwater

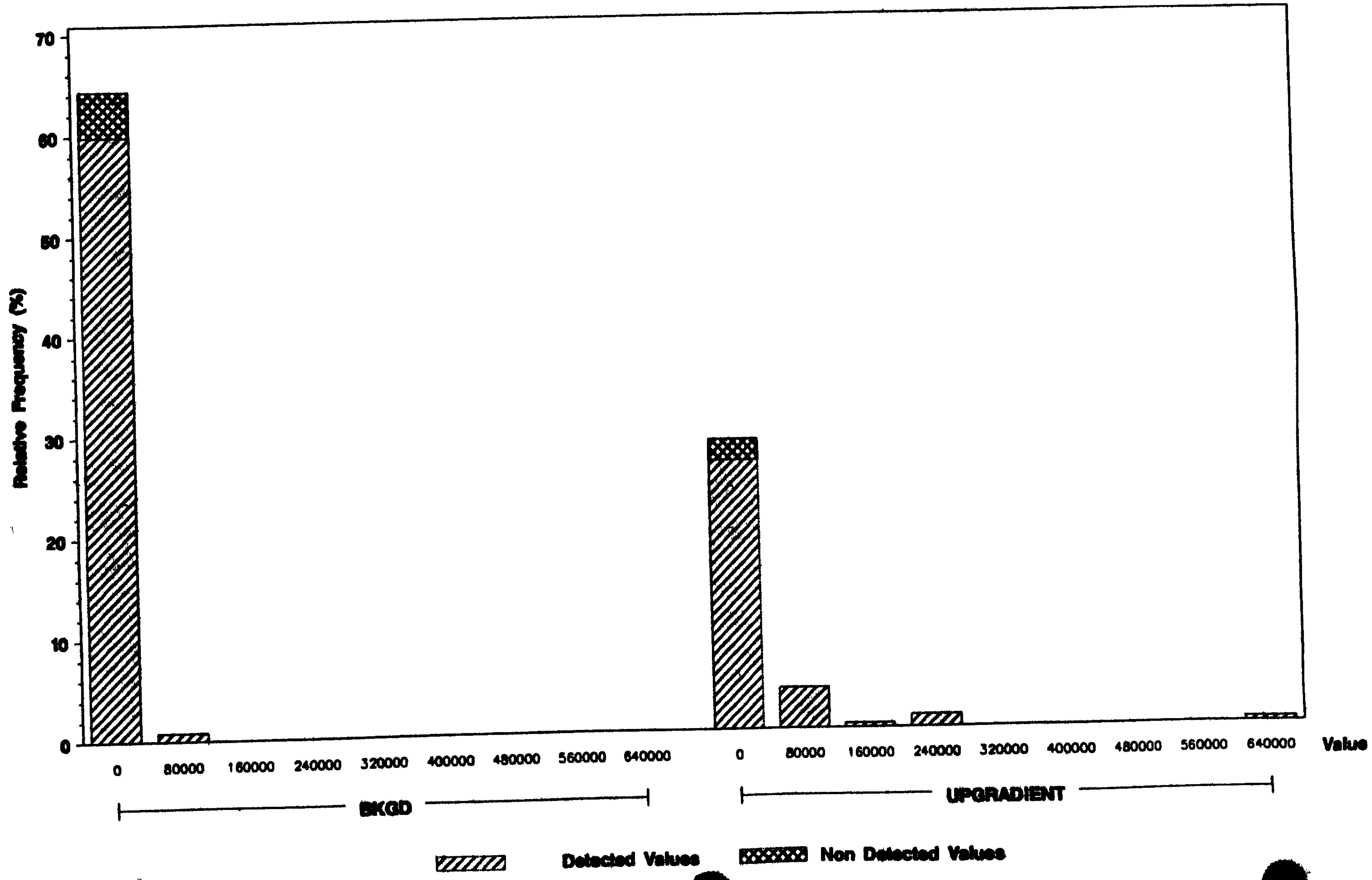
ANALYTE=FLUORIDE



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total IRON (ug/L) in Groundwater

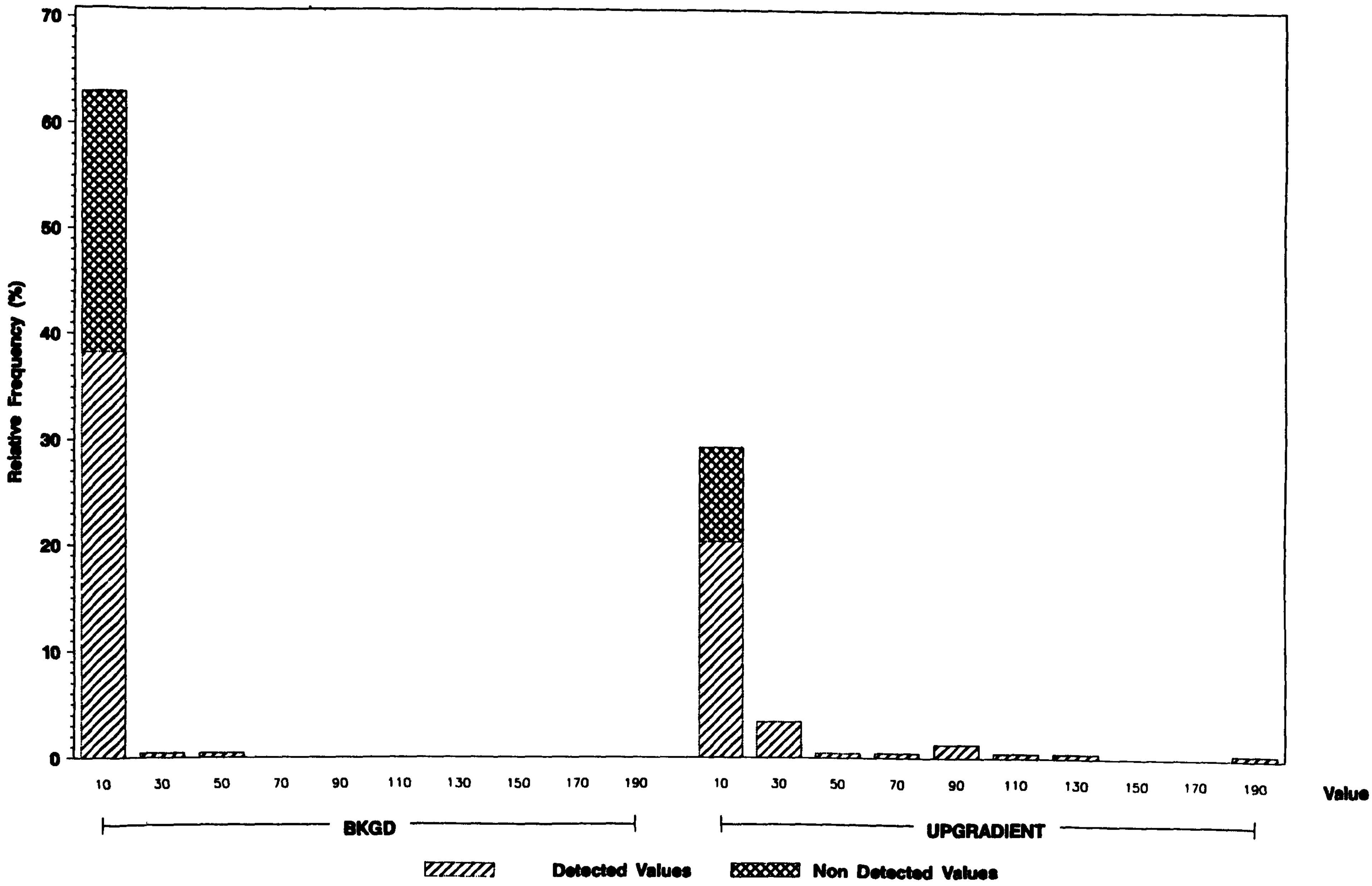
ANALYTE=IRON



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total LEAD (ug/L) in Groundwater

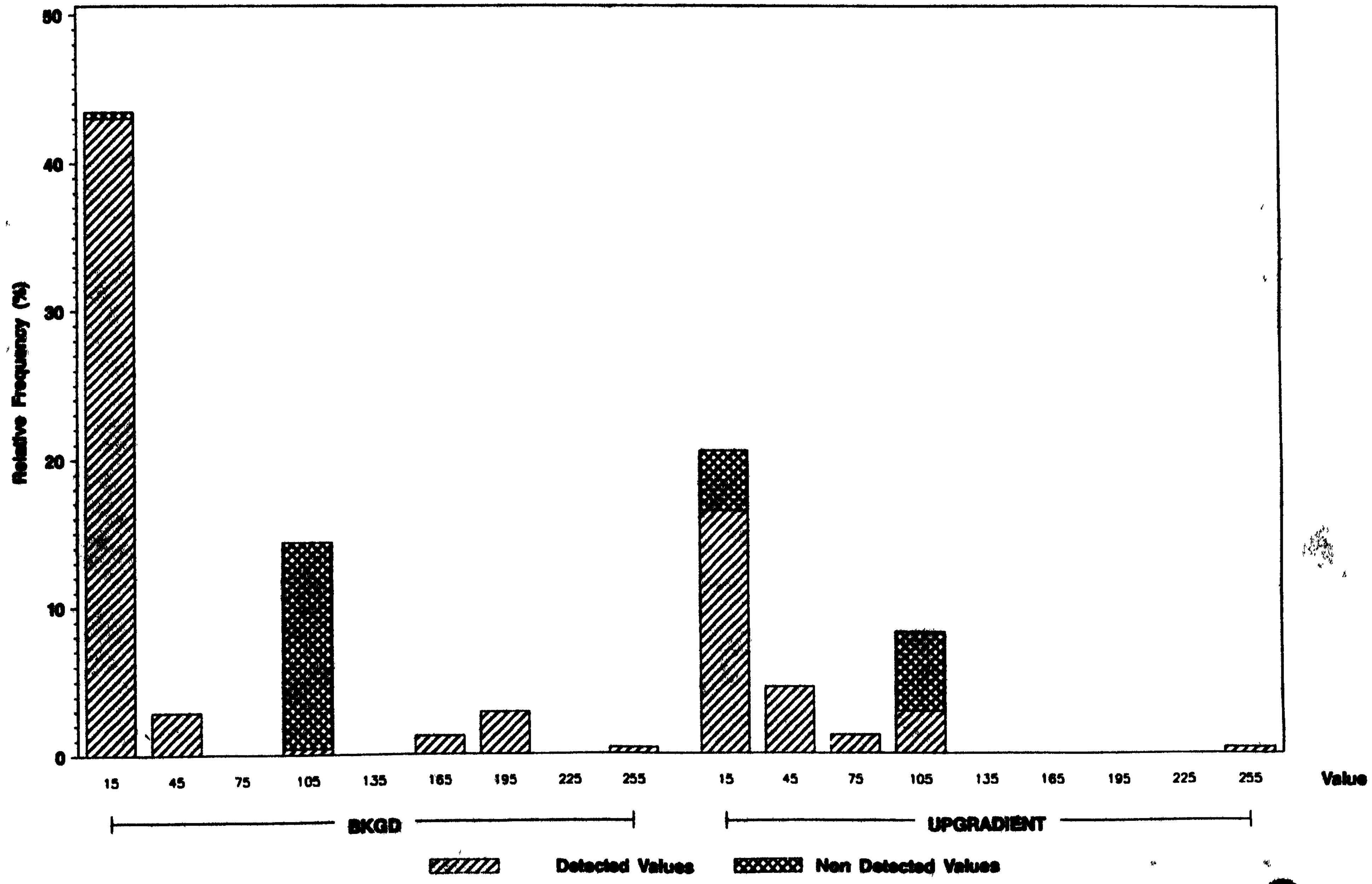
ANALYTE=LEAD



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total LITHIUM (ug/L) in Groundwater

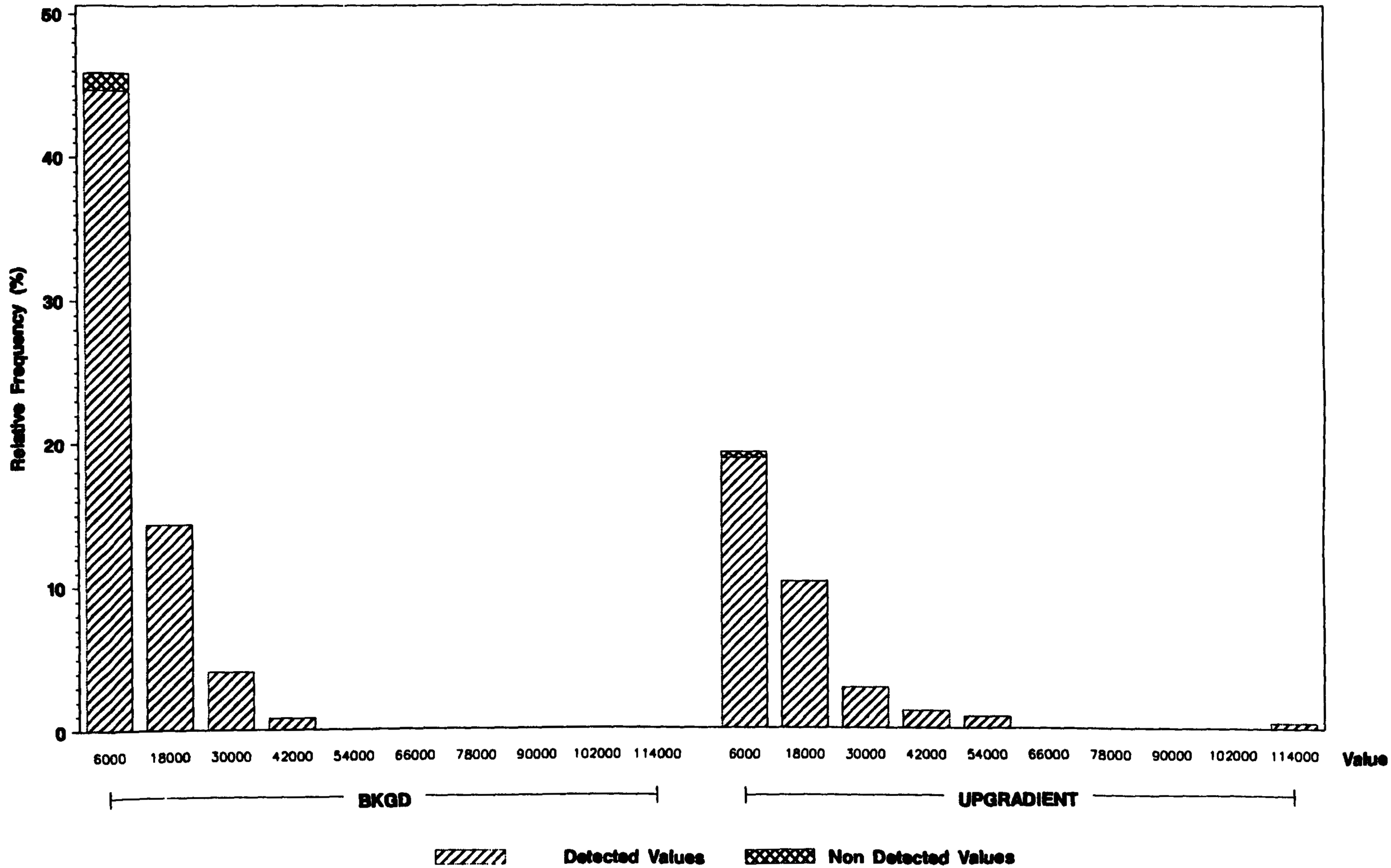
ANALYTE=LITHIUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total MAGNESIUM (ug/L) in Groundwater

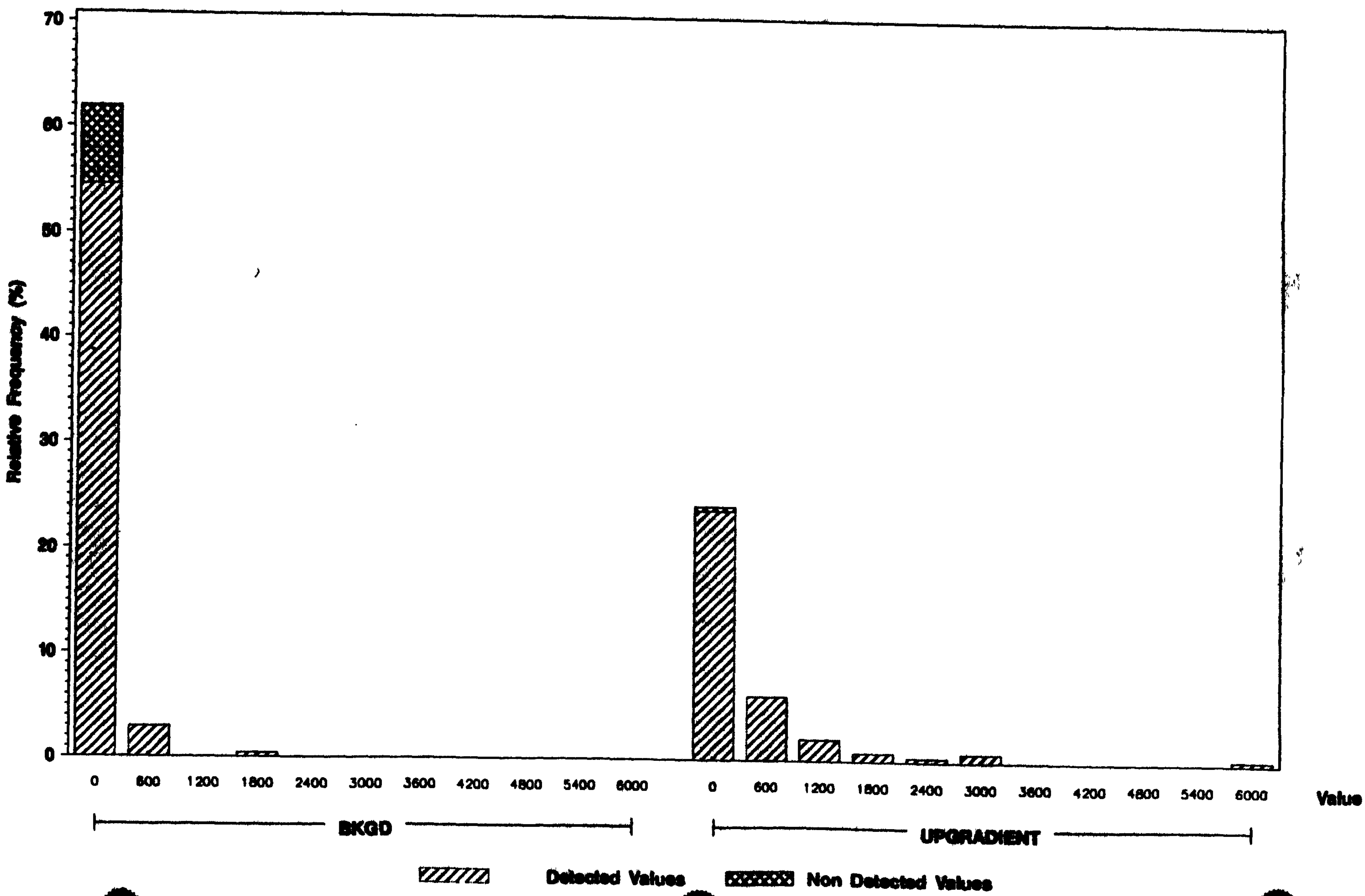
ANALYTE=MAGNESIUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total MANGANESE (ug/L) in Groundwater

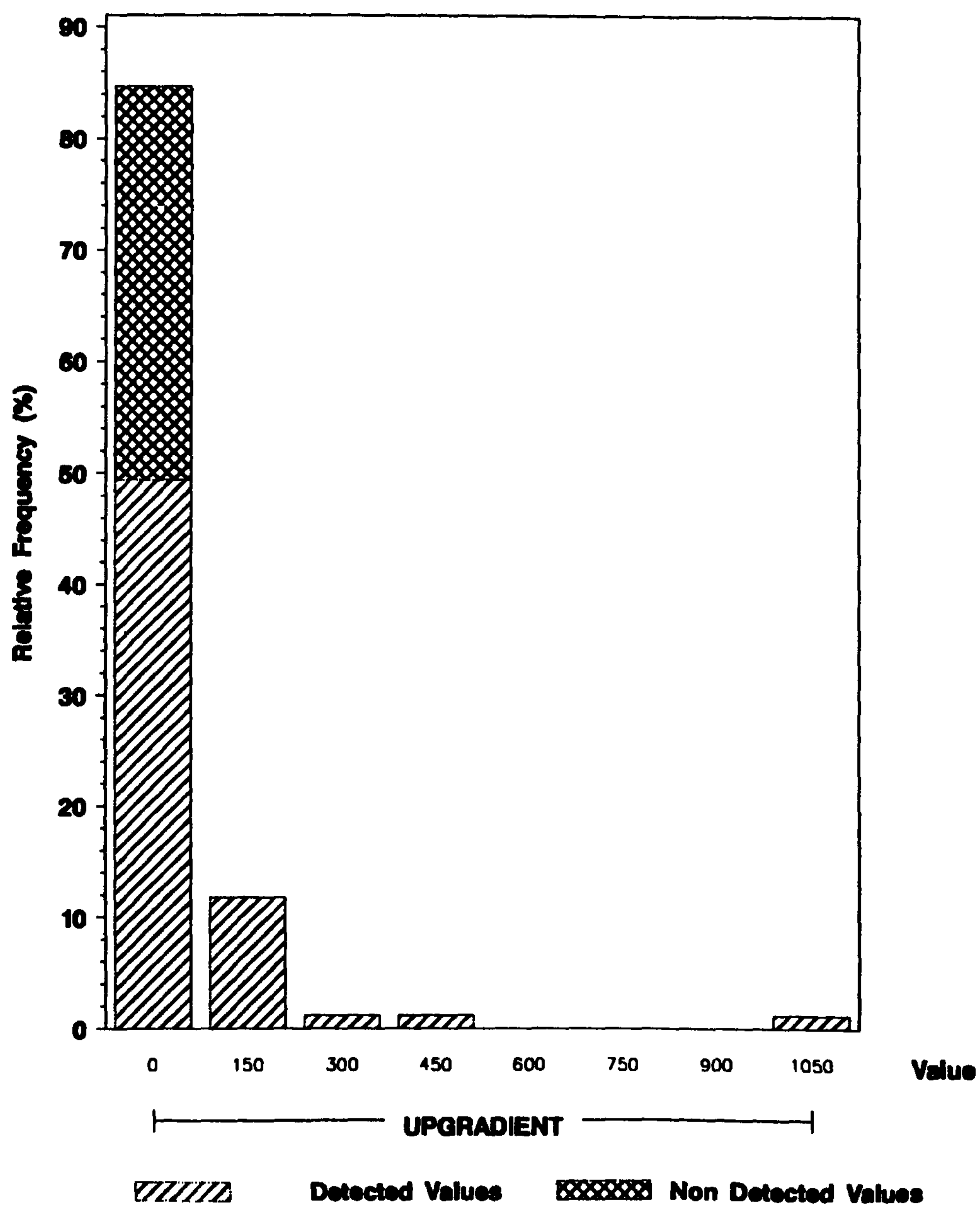
ANALYTE=MANGANESE



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total NICKEL (ug/L) in Groundwater

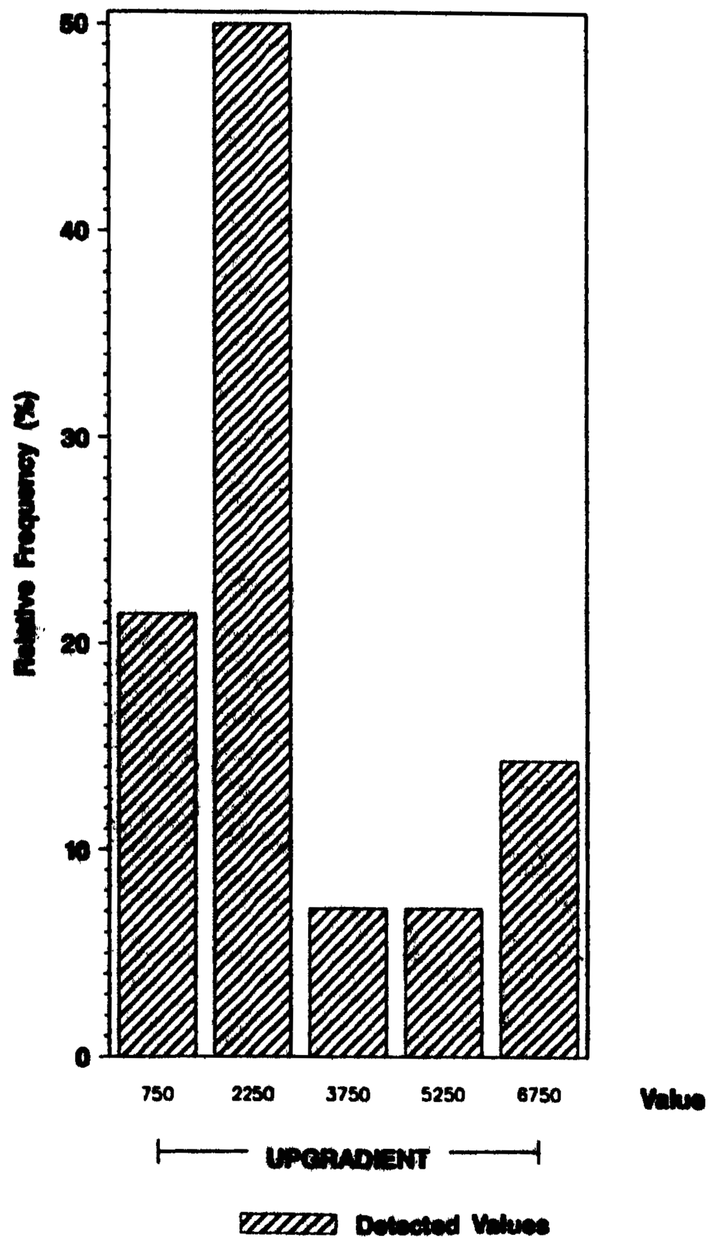
ANALYTE = NICKEL



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total NITRATE (ug/L) in Groundwater

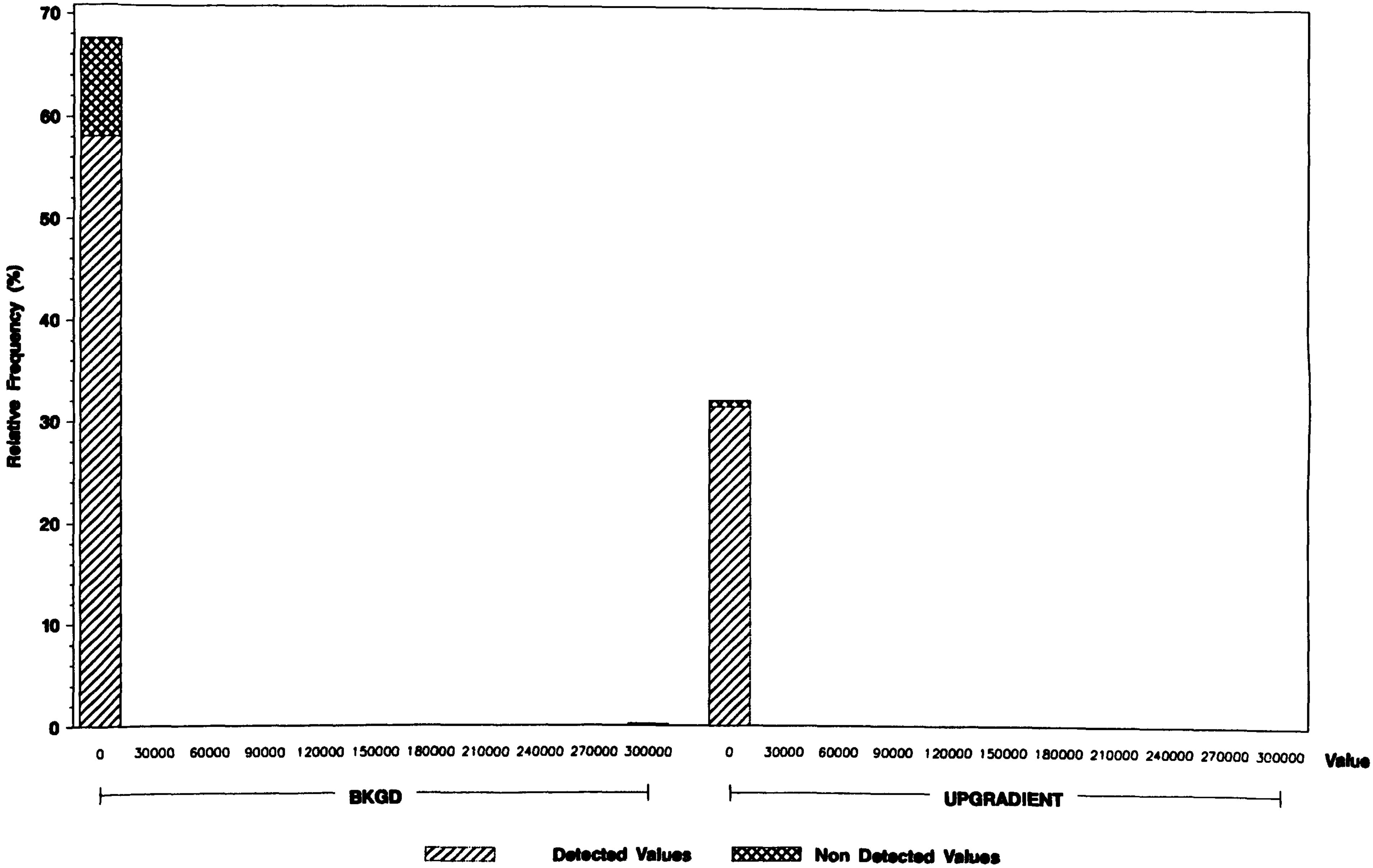
ANALYTE=NITRATE



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total NITRATE/NITRITE (ug/L) in Groundwater

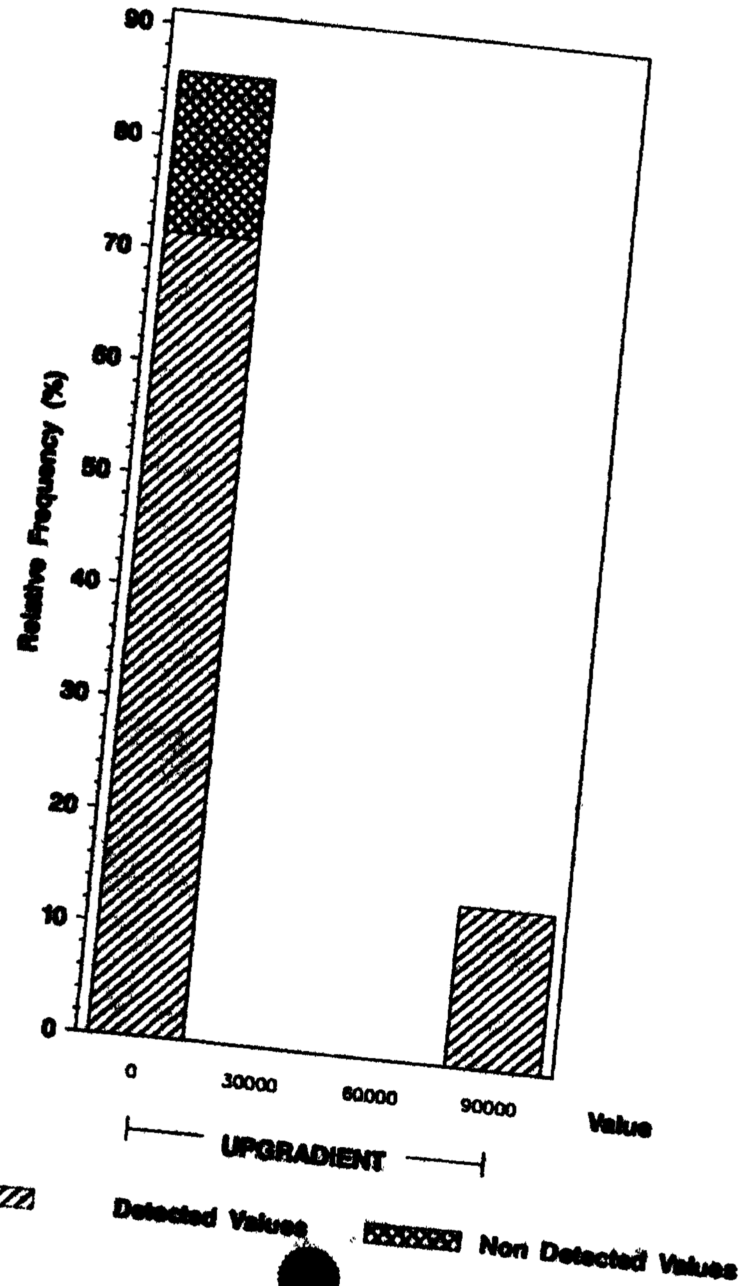
ANALYTE=NITRATE/NITRITE



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total PHOSPHORUS (ug/L) in Groundwater

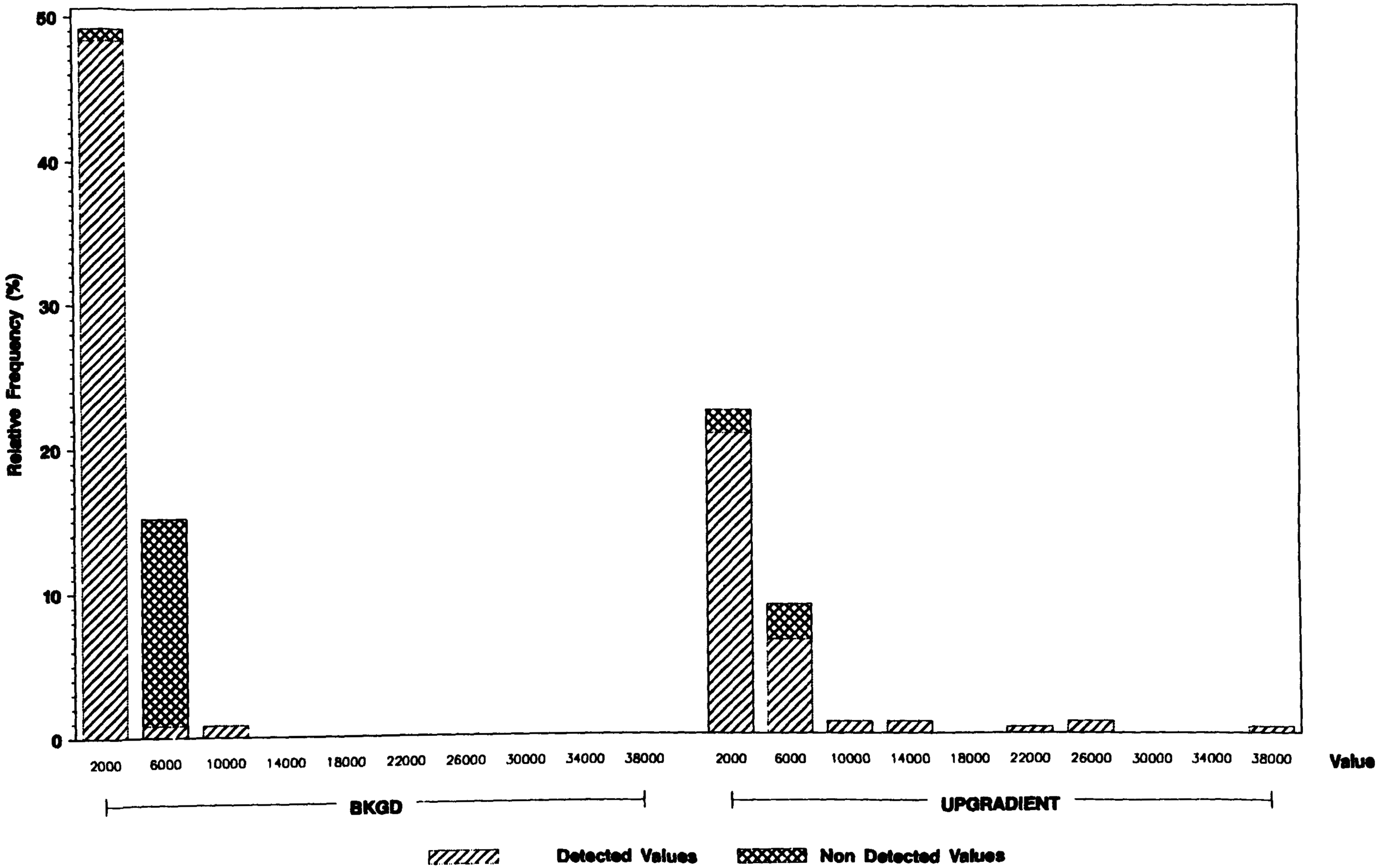
ANALYTE=PHOSPHORUS



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total POTASSIUM (ug/L) in Groundwater

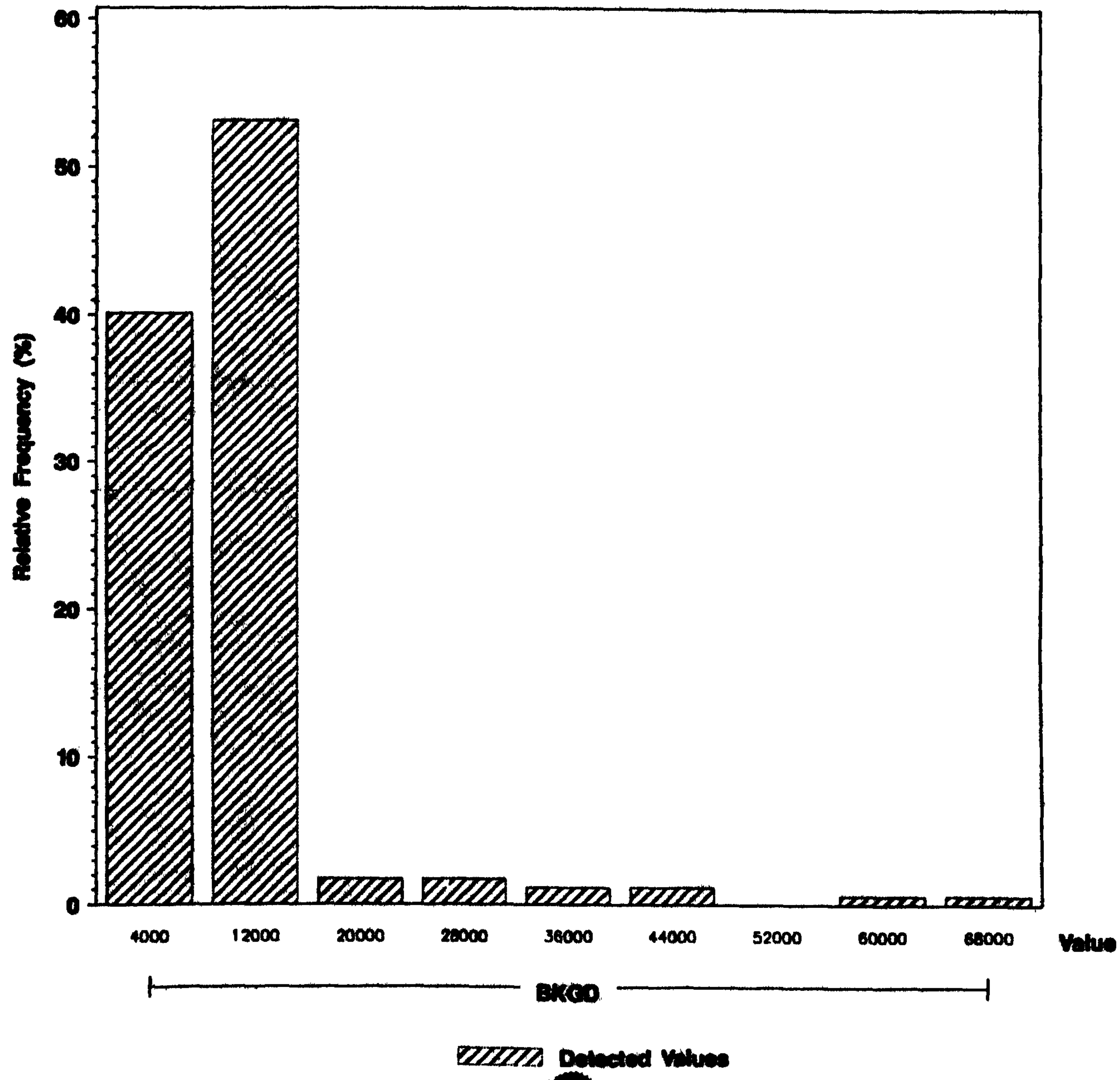
ANALYTE=POTASSIUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total SILICA (ug/L) in Groundwater

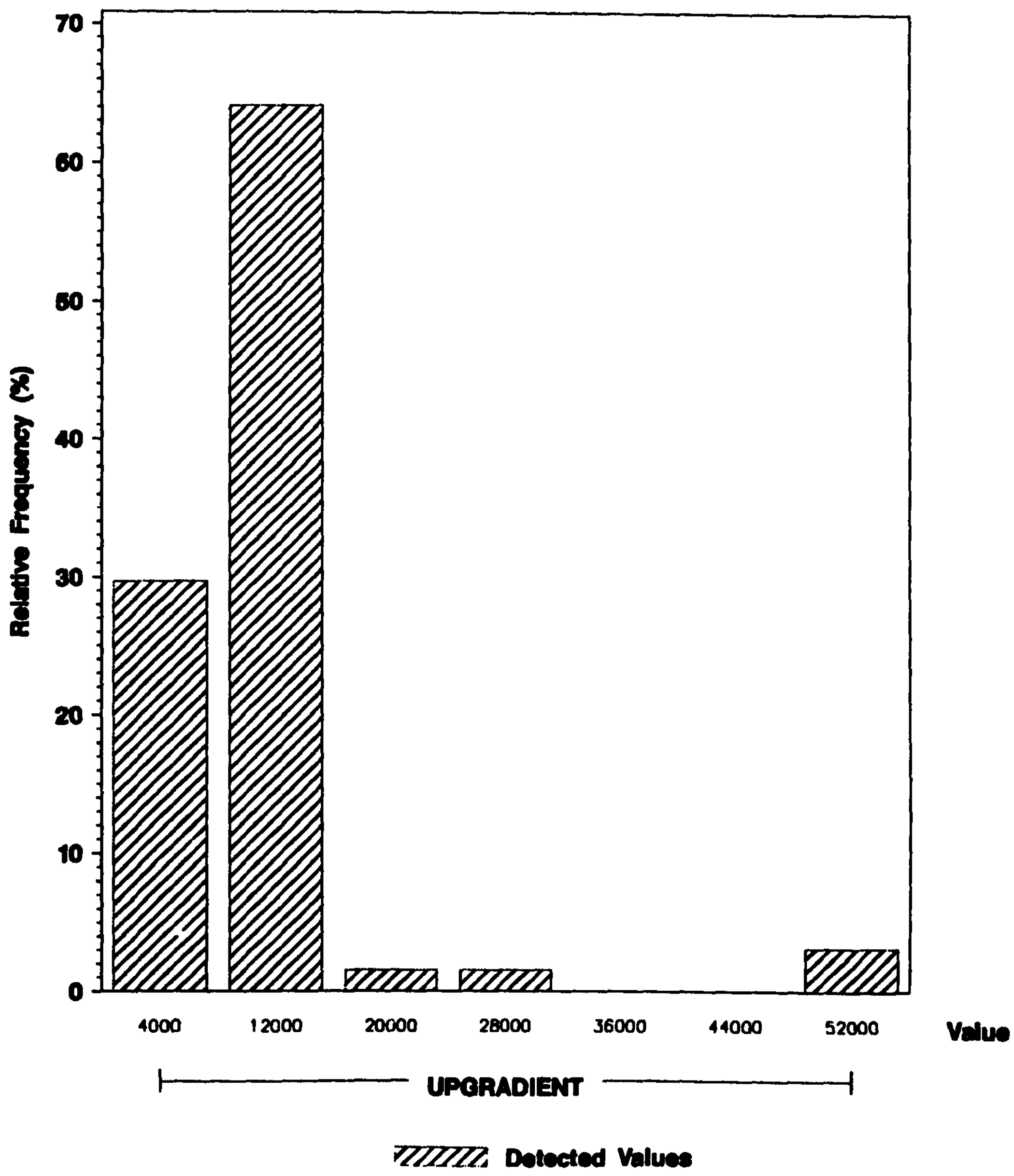
ANALYTE=SILICA



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total SILICA, DISSOLVED (ug/L) in Groundwater

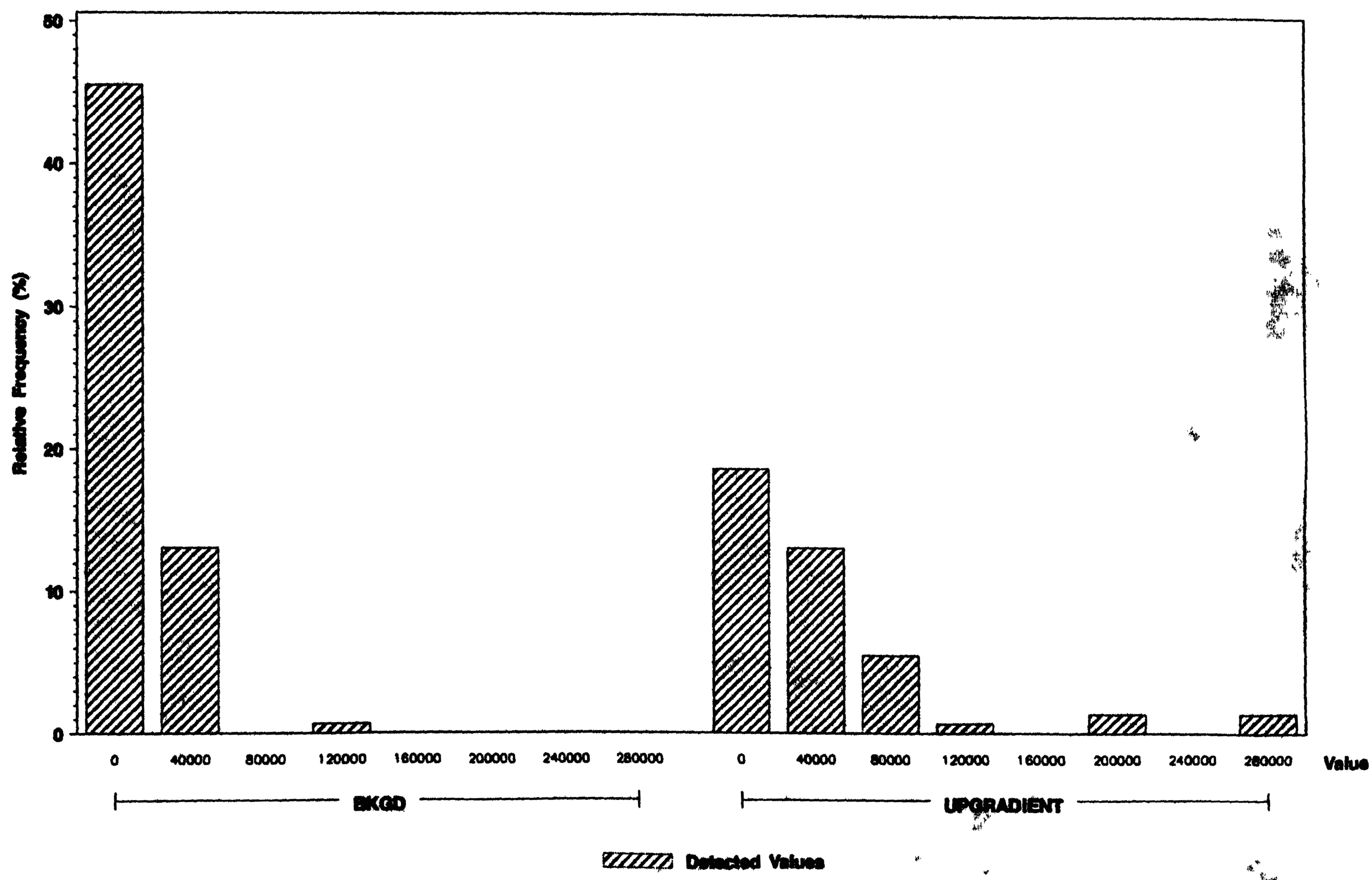
ANALYTE=SILICA, DISSOLVED



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total SILICON (ug/L) in Groundwater

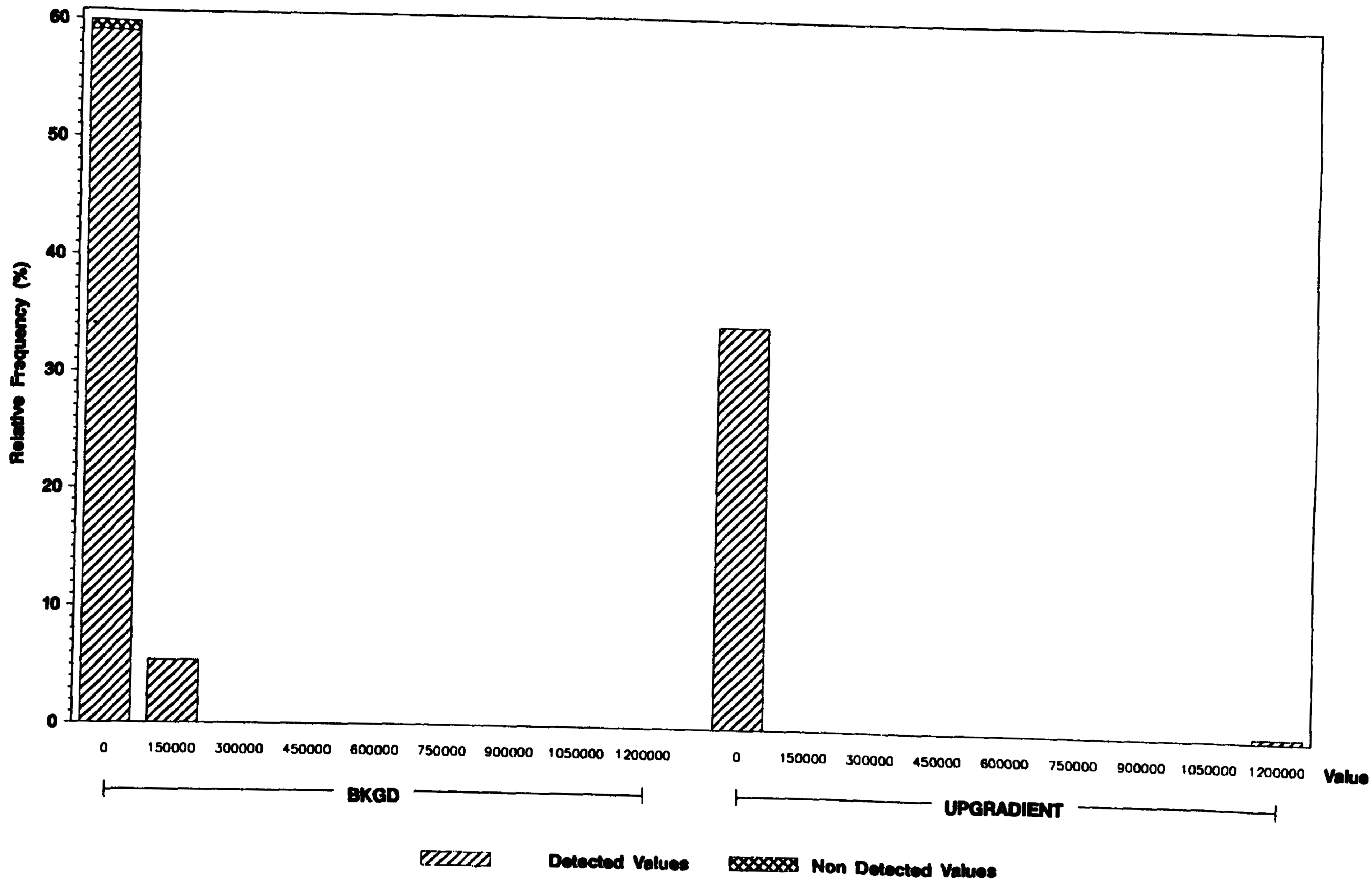
ANALYTE=SILICON



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total SODIUM (ug/L) in Groundwater

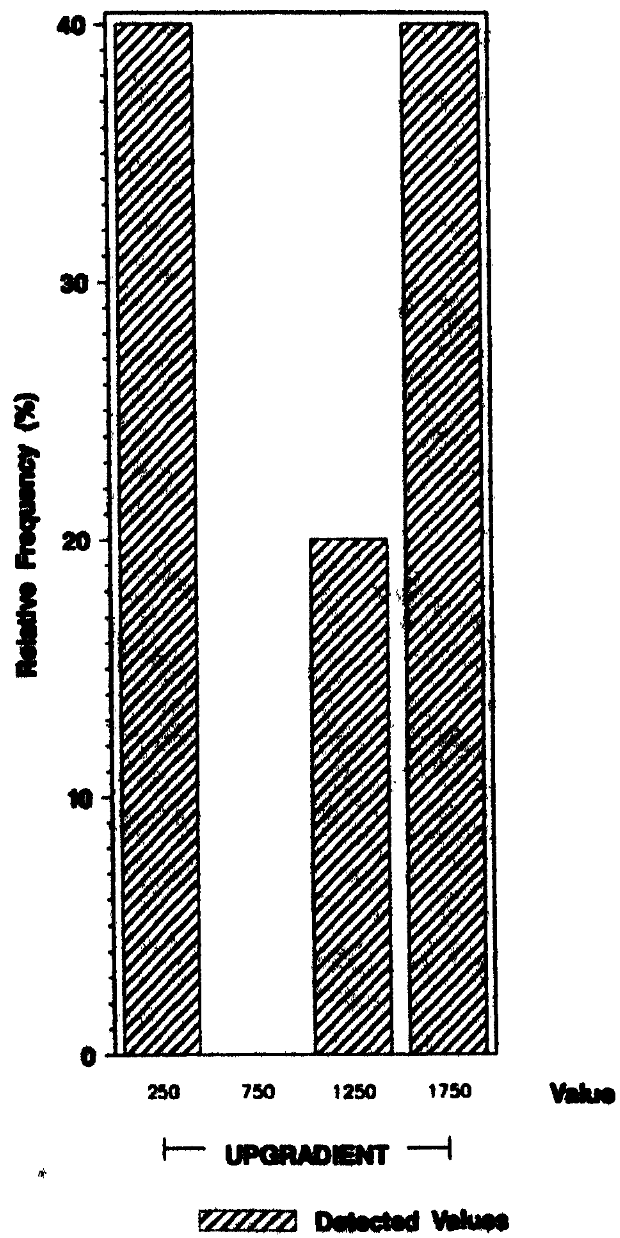
ANALYTE=SODIUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total SODIUM FLUORIDE (ug/L) in Groundwater

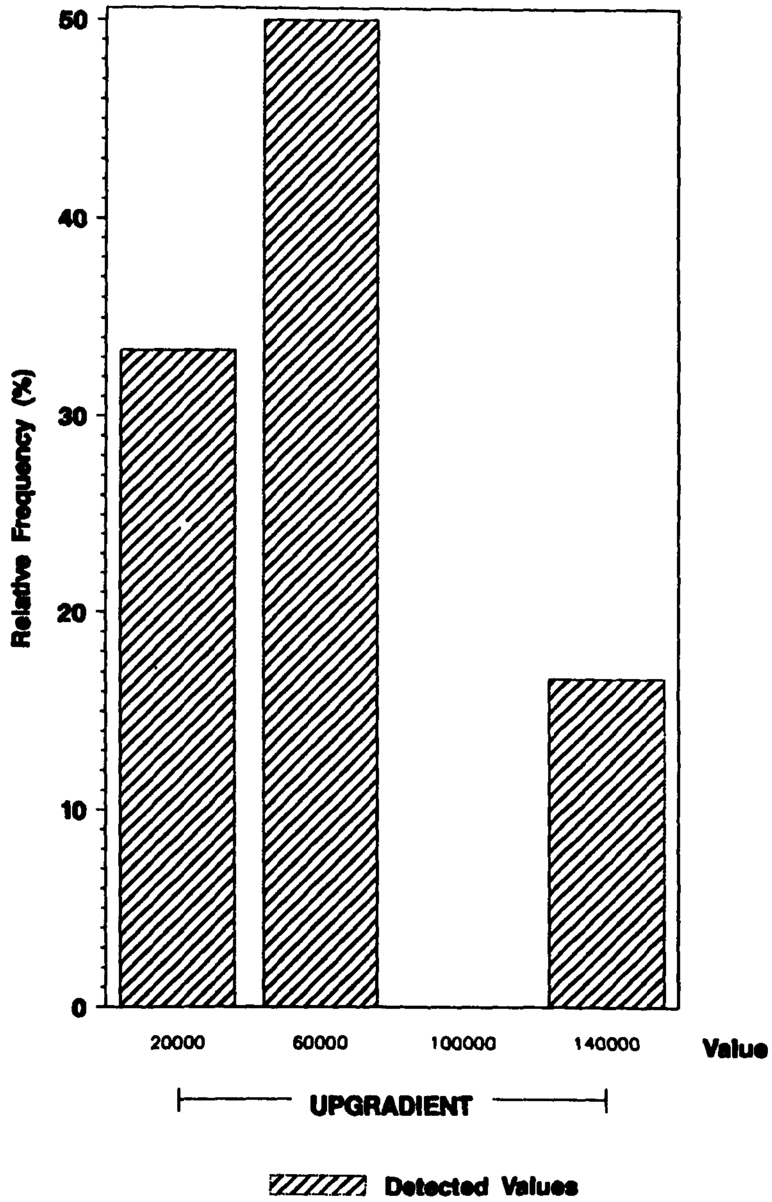
ANALYTE=SODIUM FLUORIDE



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total SODIUM SULFATE (ug/L) in Groundwater

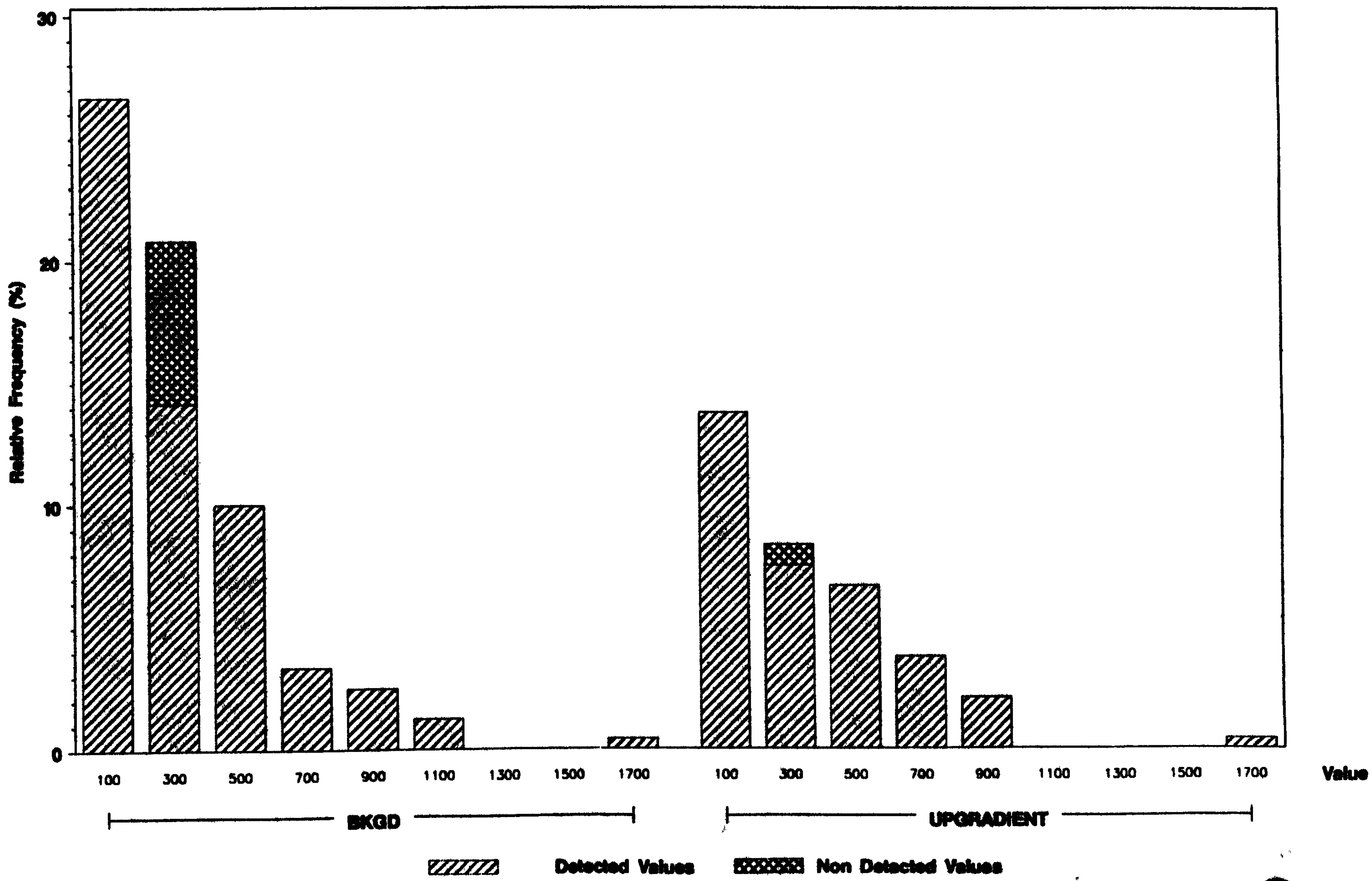
ANALYTE=SODIUM SULFATE



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total STRONTIUM (ug/L) in Groundwater

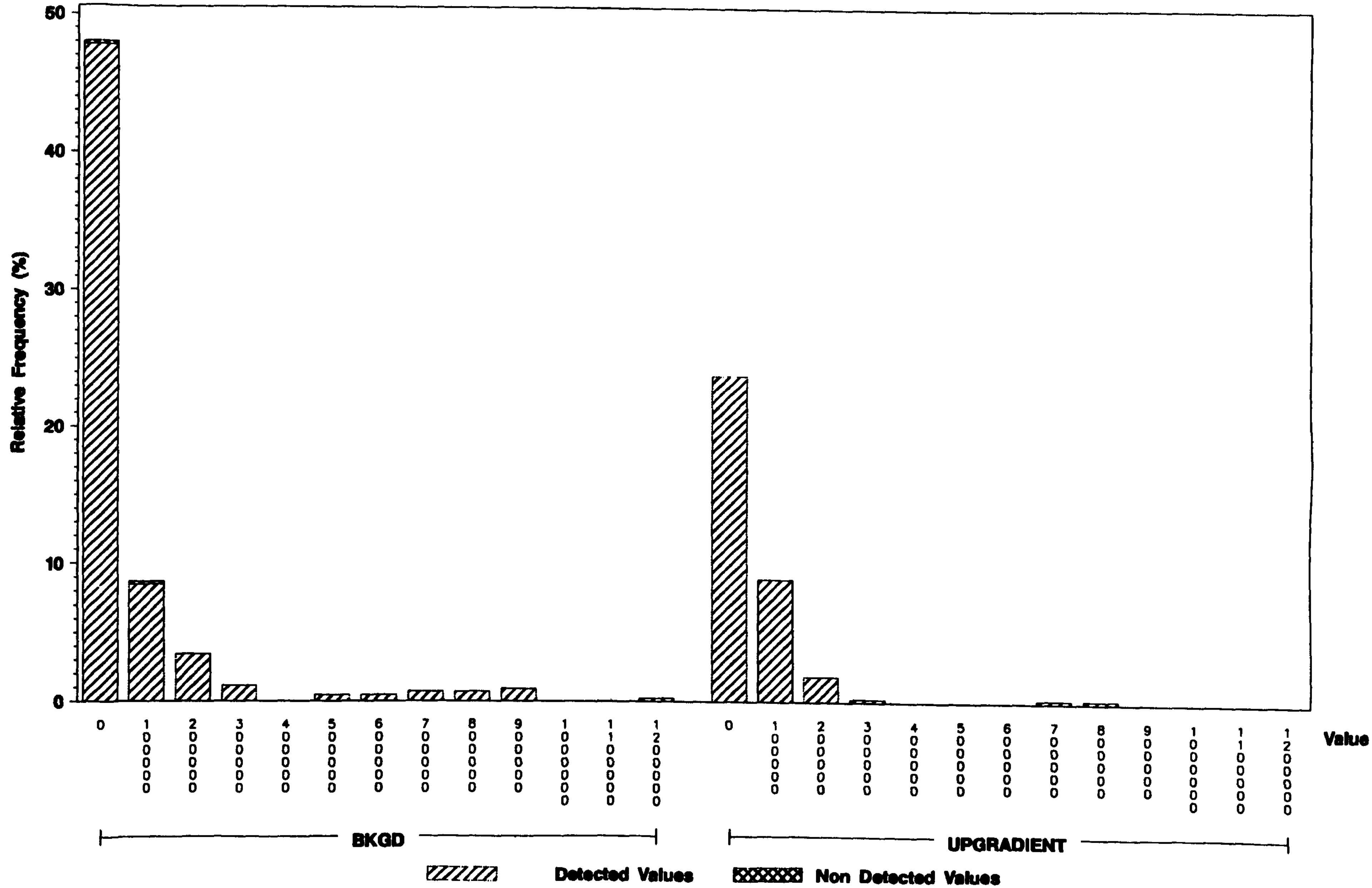
ANALYTE = STRONTIUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total SULFATE (ug/L) in Groundwater

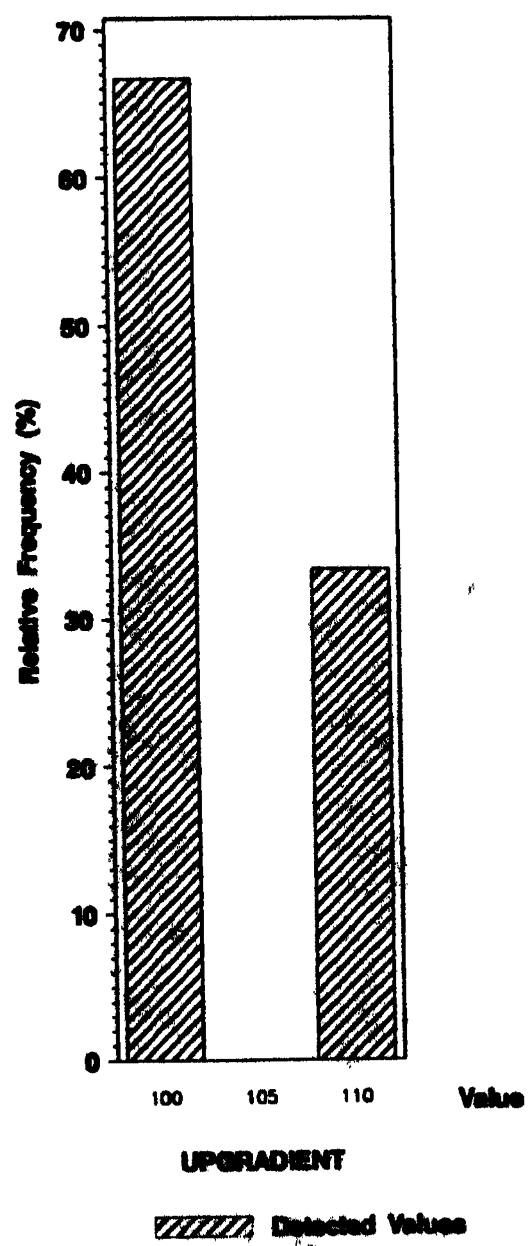
ANALYTE = SULFATE



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total TOLUENE – D8 (ug/L) In Groundwater

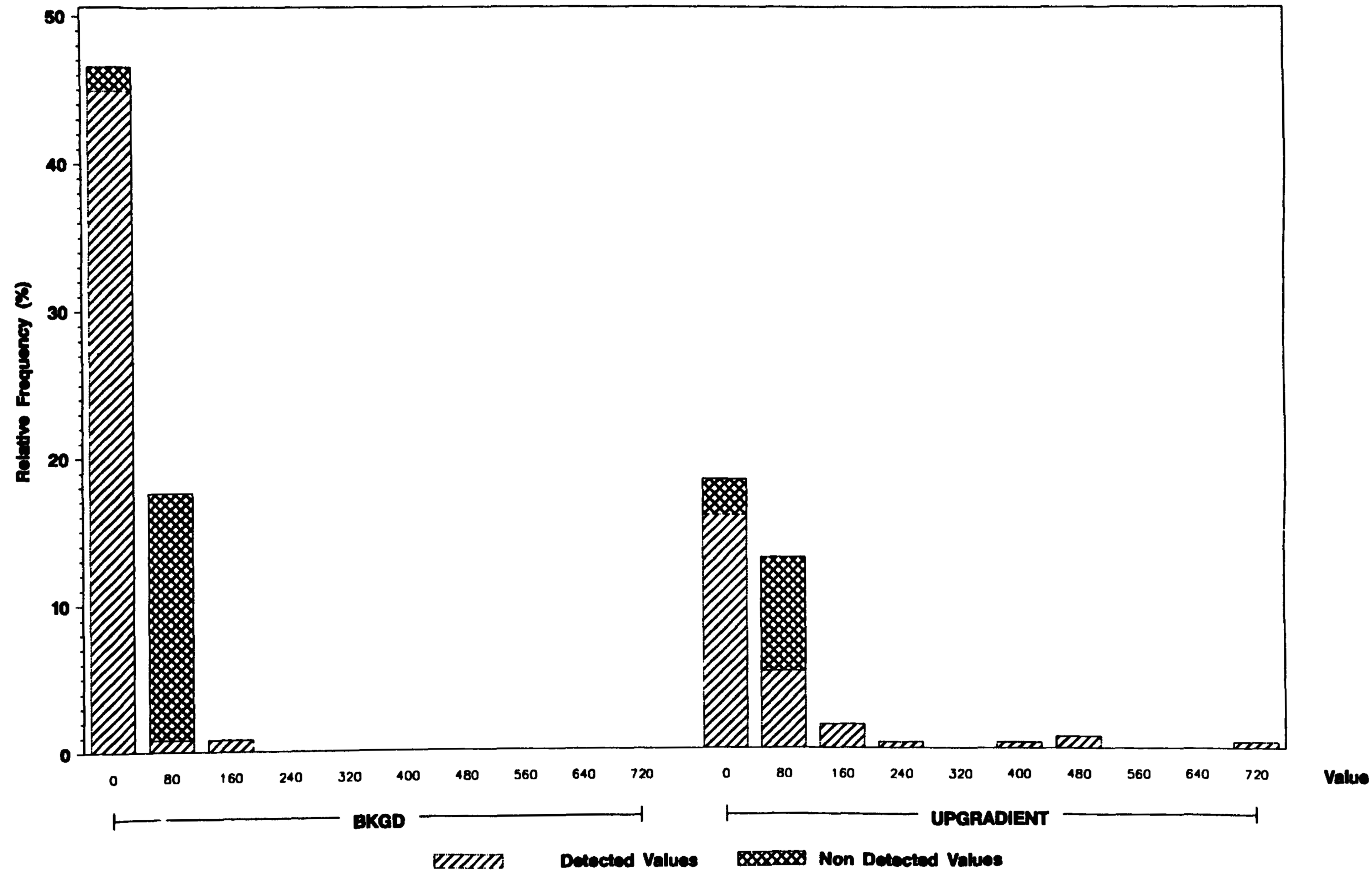
ANALYTE=TOLUENE – D8



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total VANADIUM (ug/L) in Groundwater

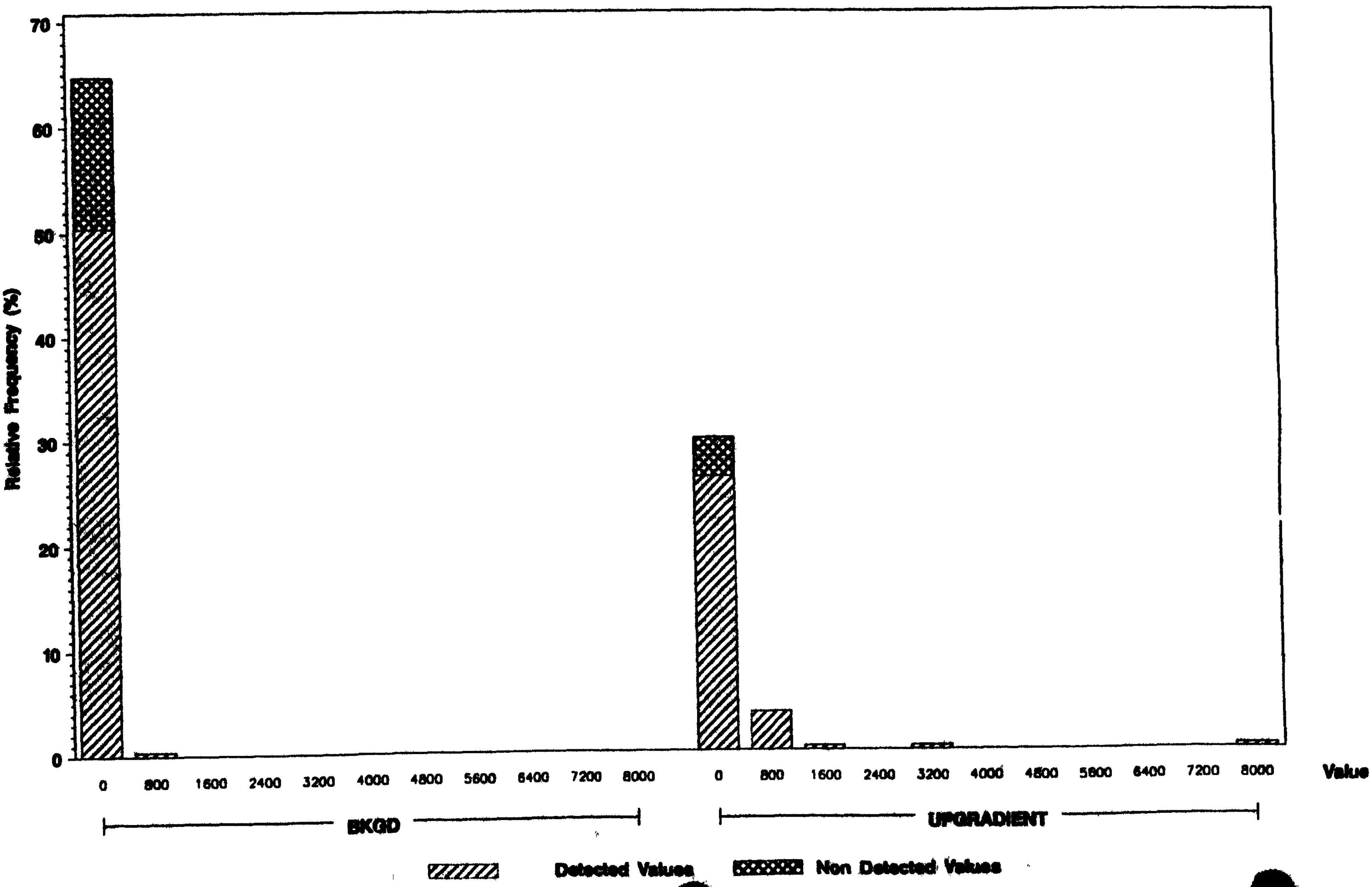
ANALYTE=VANADIUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total ZINC (ug/L) in Groundwater

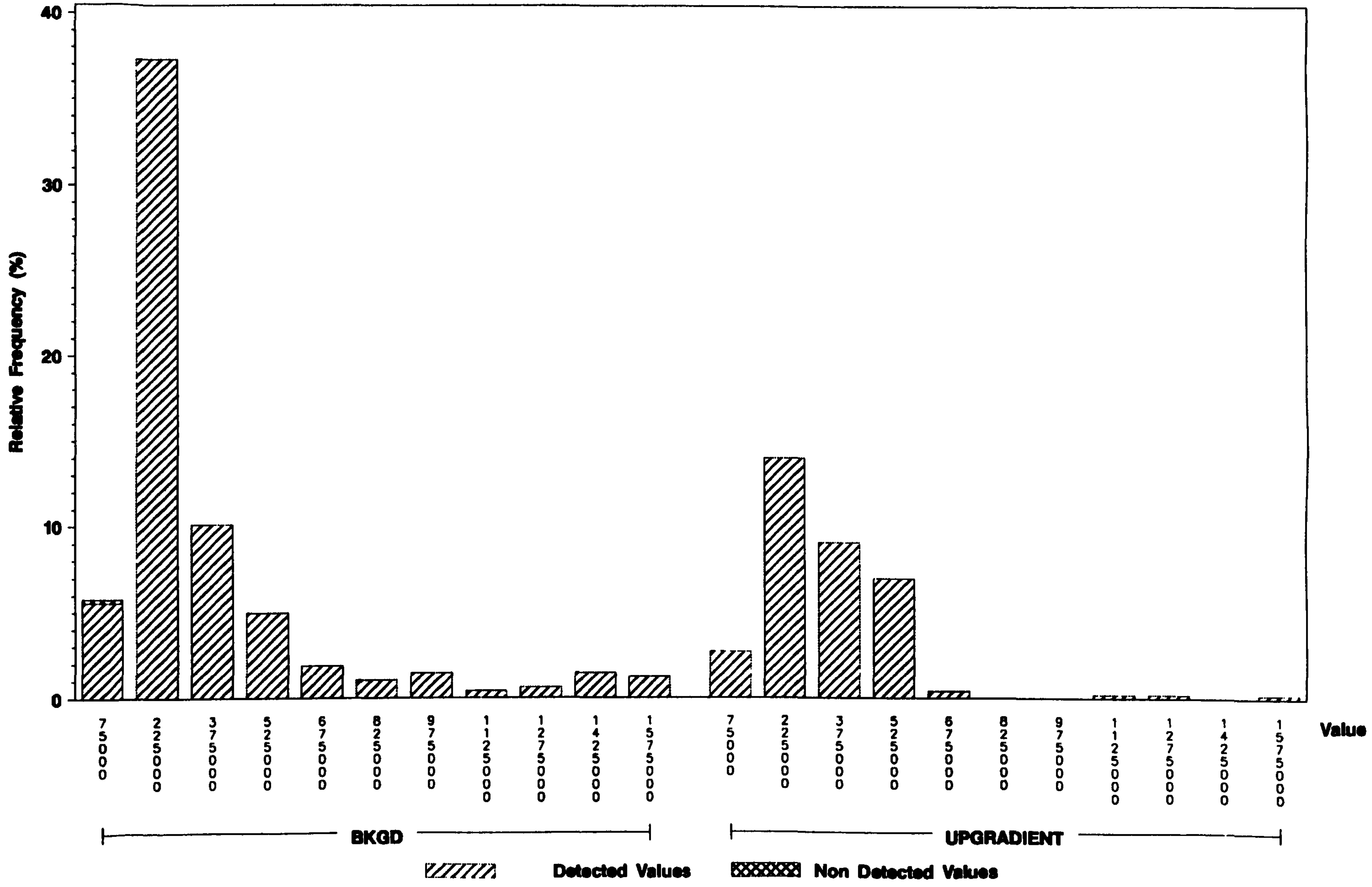
ANALYTE=ZINC



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

TOTAL DISSOLVED SOLIDS (ug/L) in Groundwater

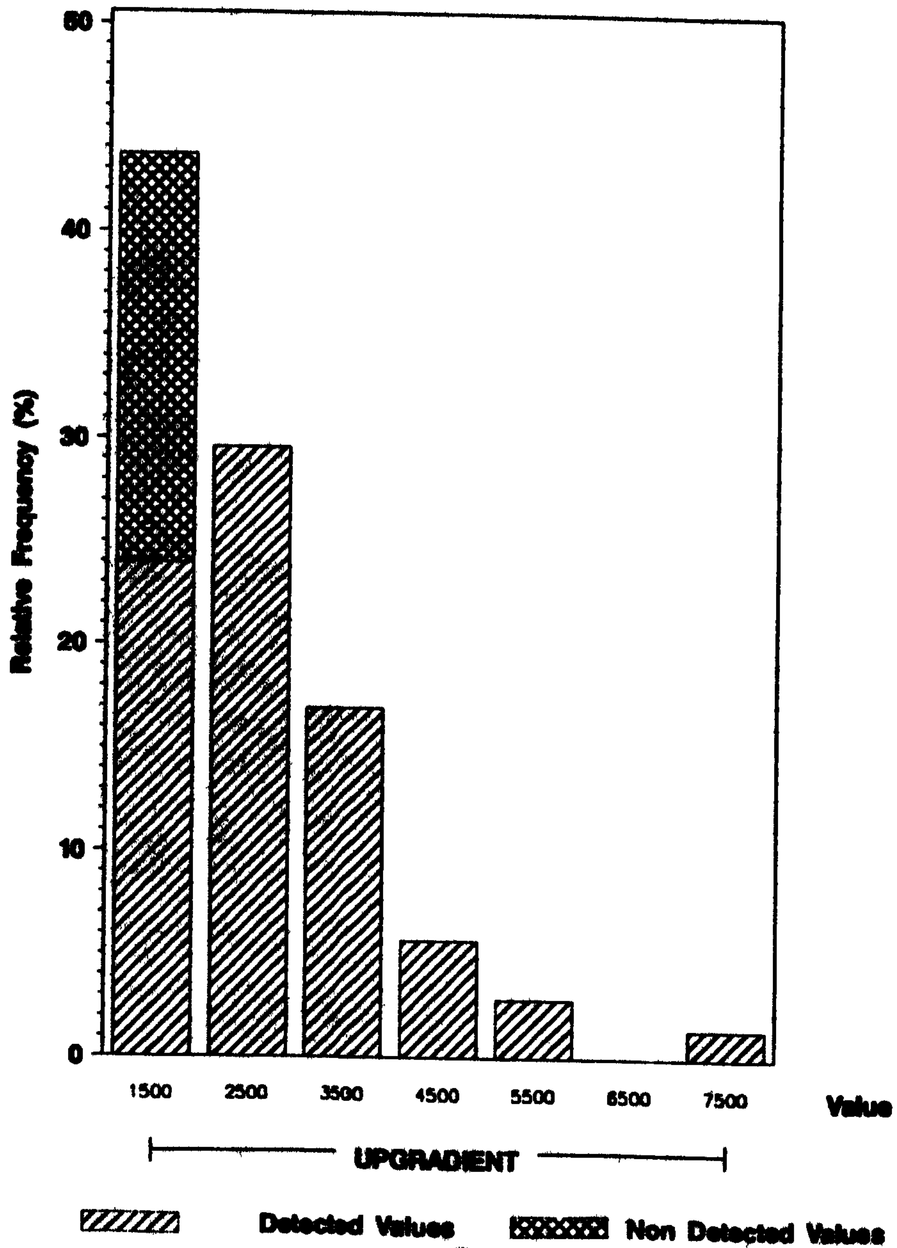
ANALYTE=TOTAL DISSOLVED SOLIDS

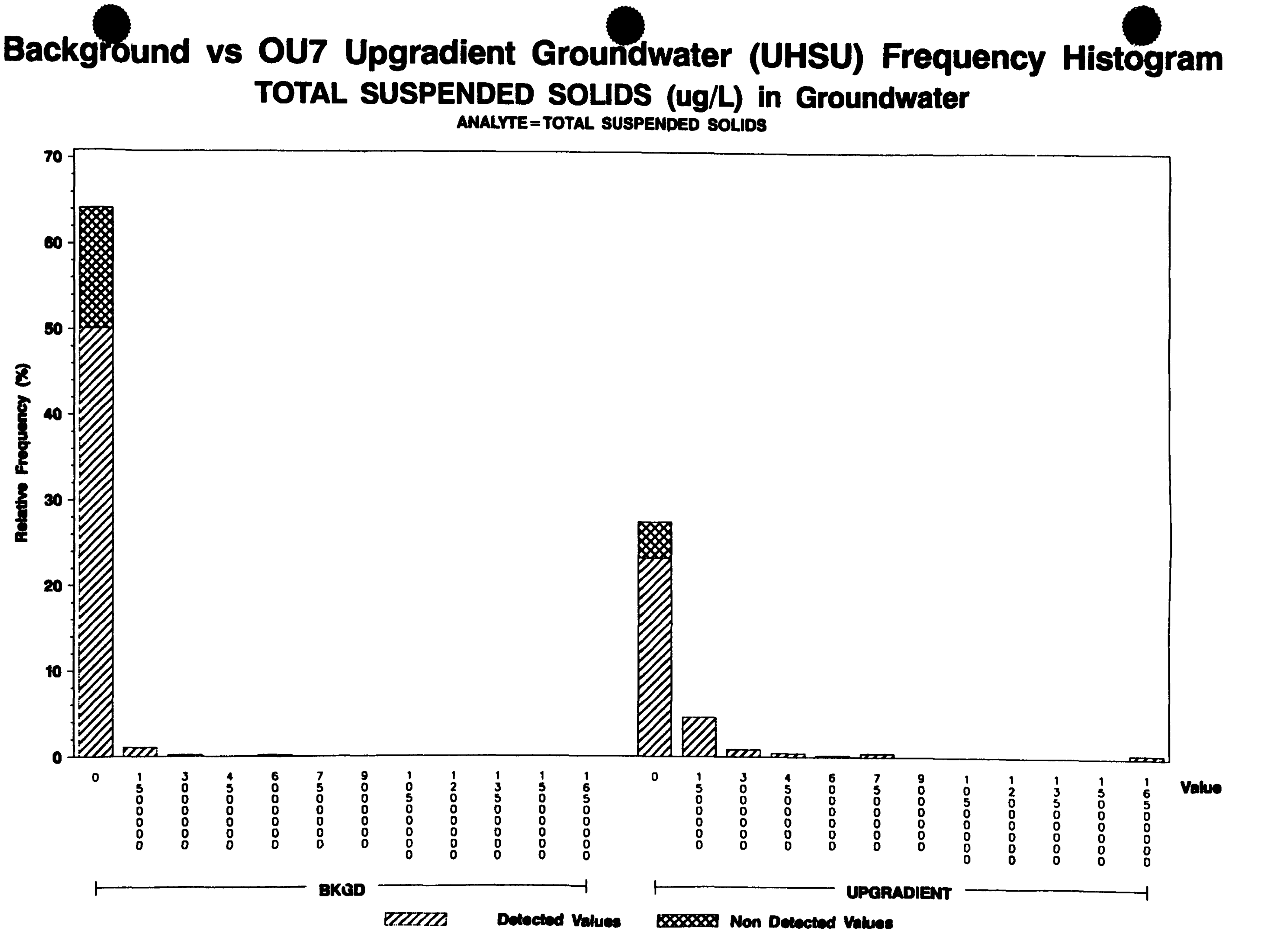


Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

TOTAL ORGANIC CARBON (ug/L) in Groundwater

ANALYTE=TOTAL ORGANIC CARBON

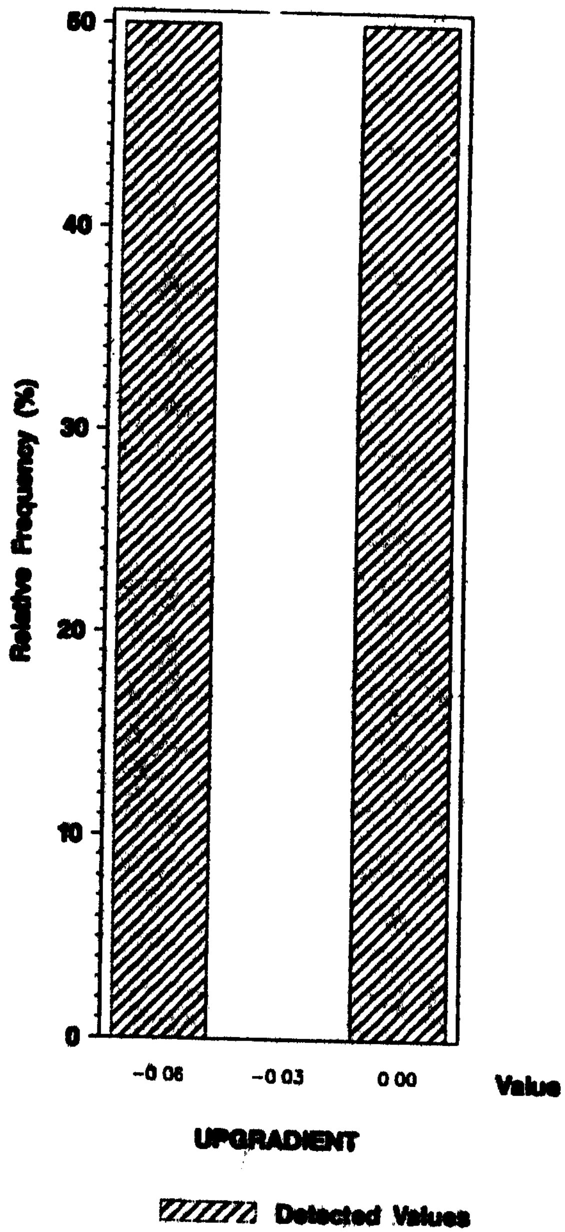



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram
TOTAL SUSPENDED SOLIDS (ug/L) in Groundwater
ANALYTE=TOTAL SUSPENDED SOLIDS
Relative Frequency (%)
0
10
20
30
40
50
60
70
0
1500000
3000000
4500000
6000000
7500000
9000000
10500000
12000000
13500000
15000000
16500000
Value
BKGD
UPGRADIENT
Detected Values
Non Detected Values

Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total CESIUM RADIOACTIVE UNKN ISOTOPE (pCi/L) in Groundwater

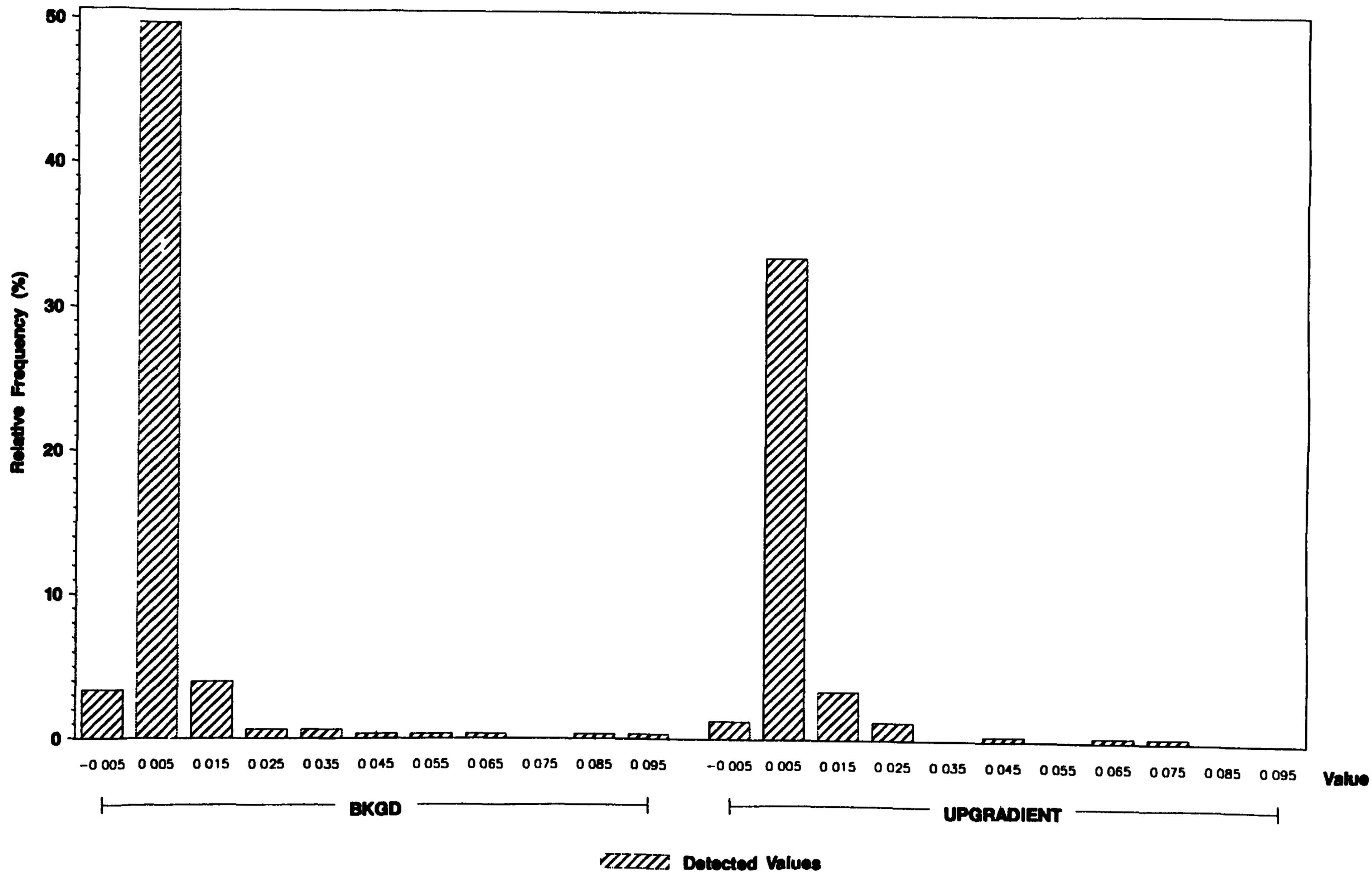
ANALYTE=CESIUM RADIOACTIVE UNKN ISOTOPE



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total AMERICIUM – 241 (pCi/L) in Groundwater

ANALYTE = AMERICIUM – 241



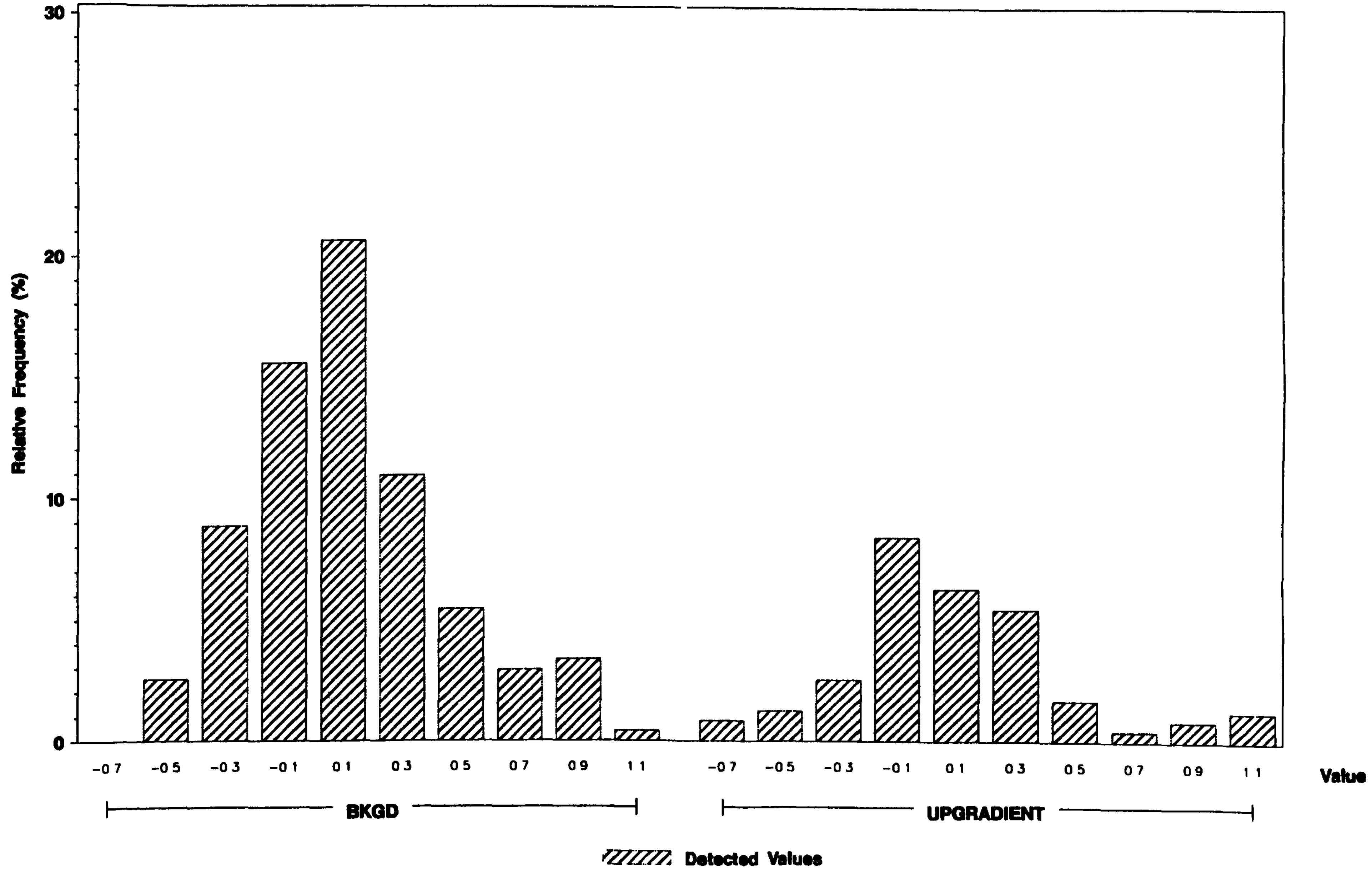
Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total CESIUM-134 (pCi/L) in Groundwater

Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total CESIUM – 137 (pCi/L) in Groundwater

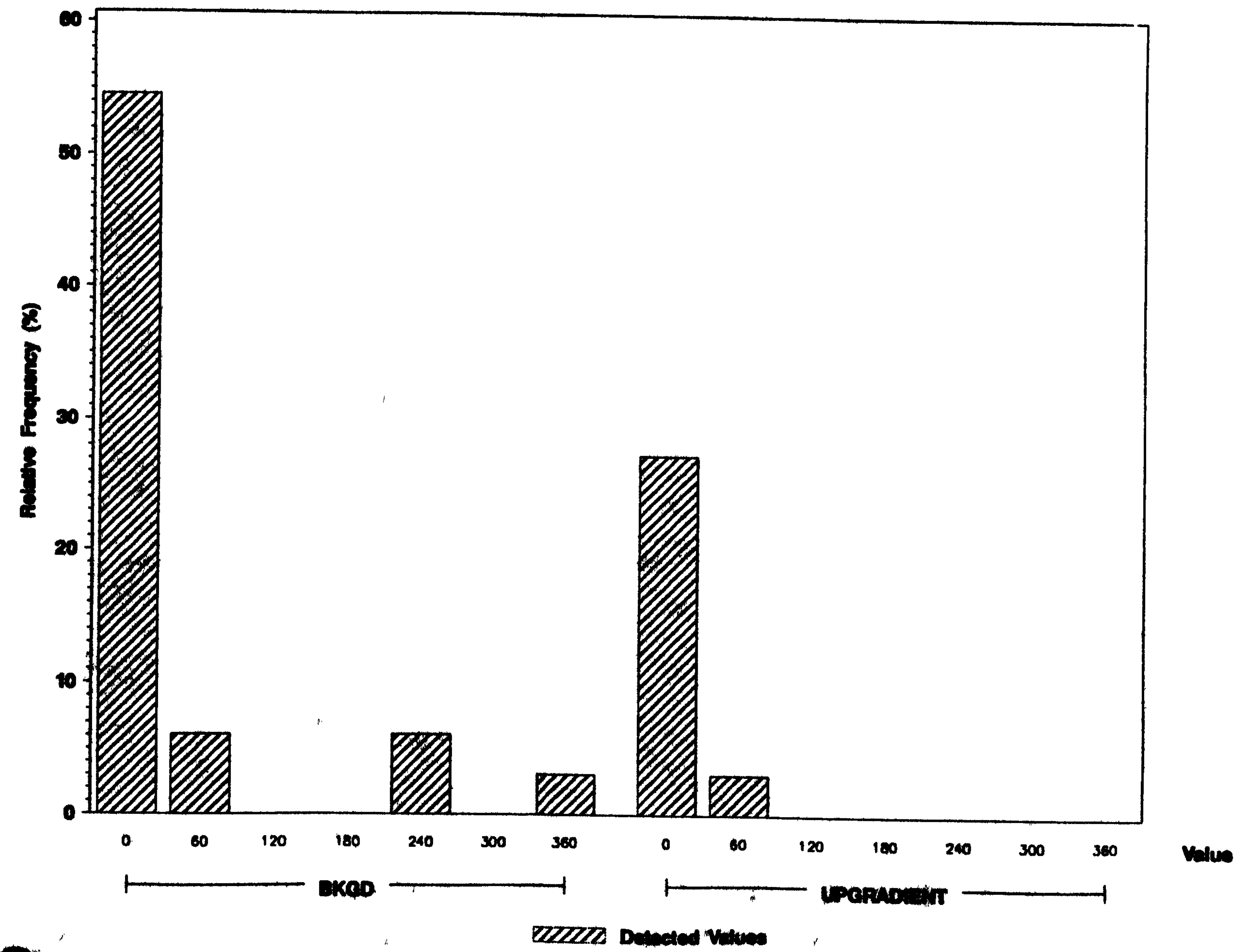
ANALYTE = CESIUM – 137



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total GROSS ALPHA (pCi/L) in Groundwater

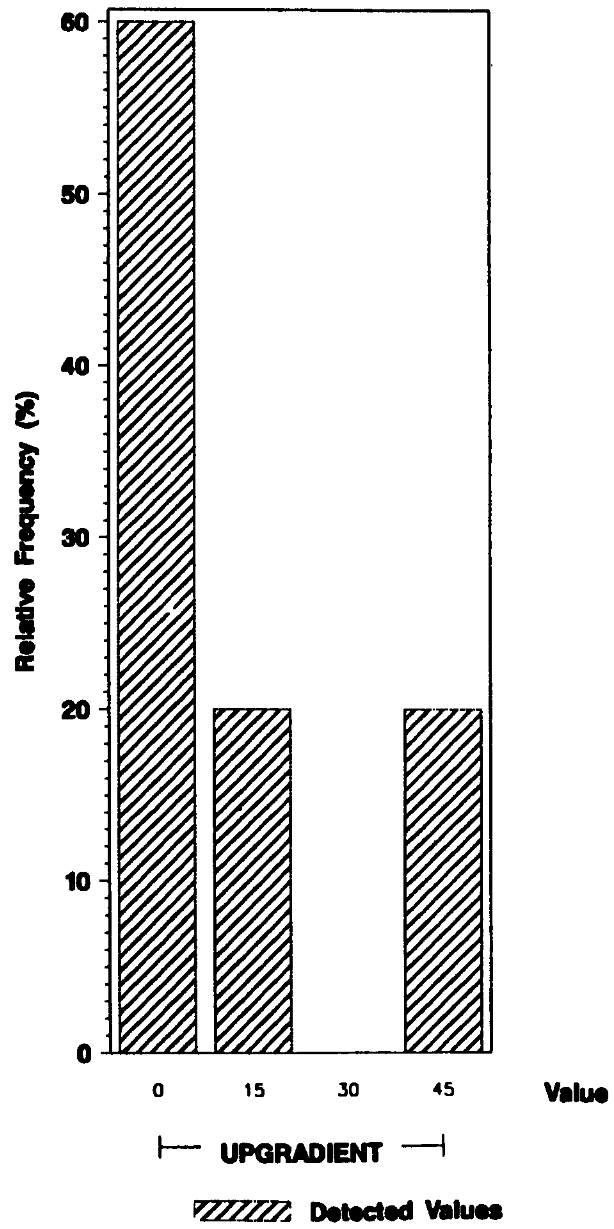
ANALYTE=GROSS ALPHA



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total GROSS ALPHA – DISSOLVED (pCi/L) in Groundwater

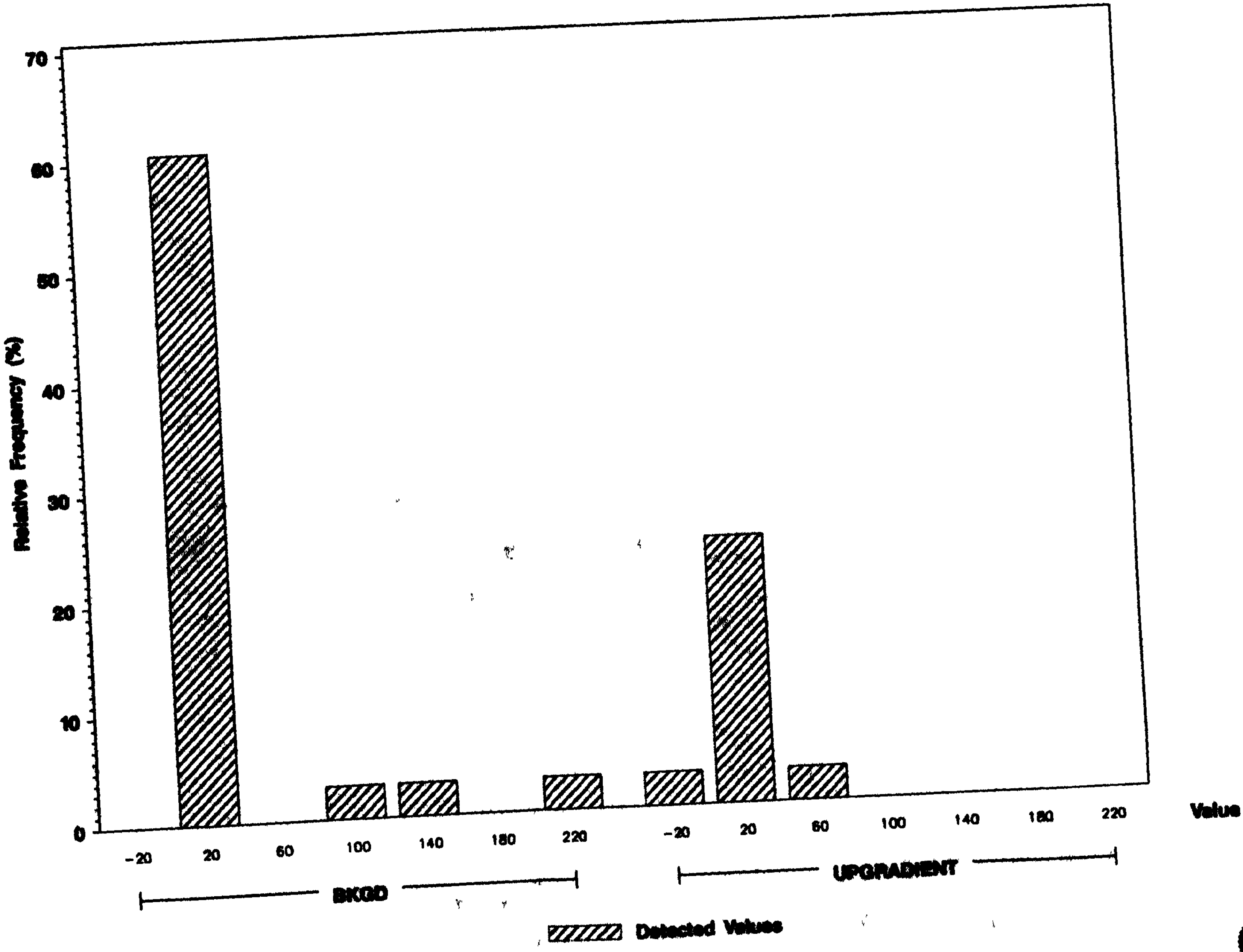
ANALYTE=GROSS ALPHA – DISSOLVED



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total GROSS BETA (pCi/L) in Groundwater

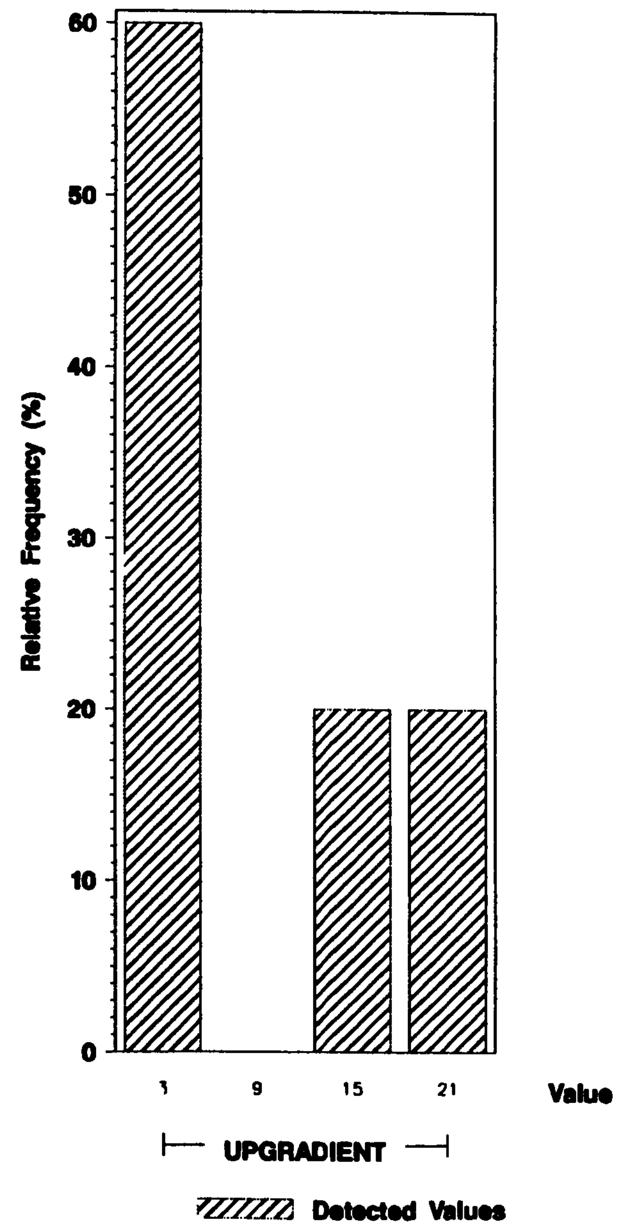
ANALYTE=GROSS BETA



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total GROSS BETA – DISSOLVED (pCi/L) in Groundwater

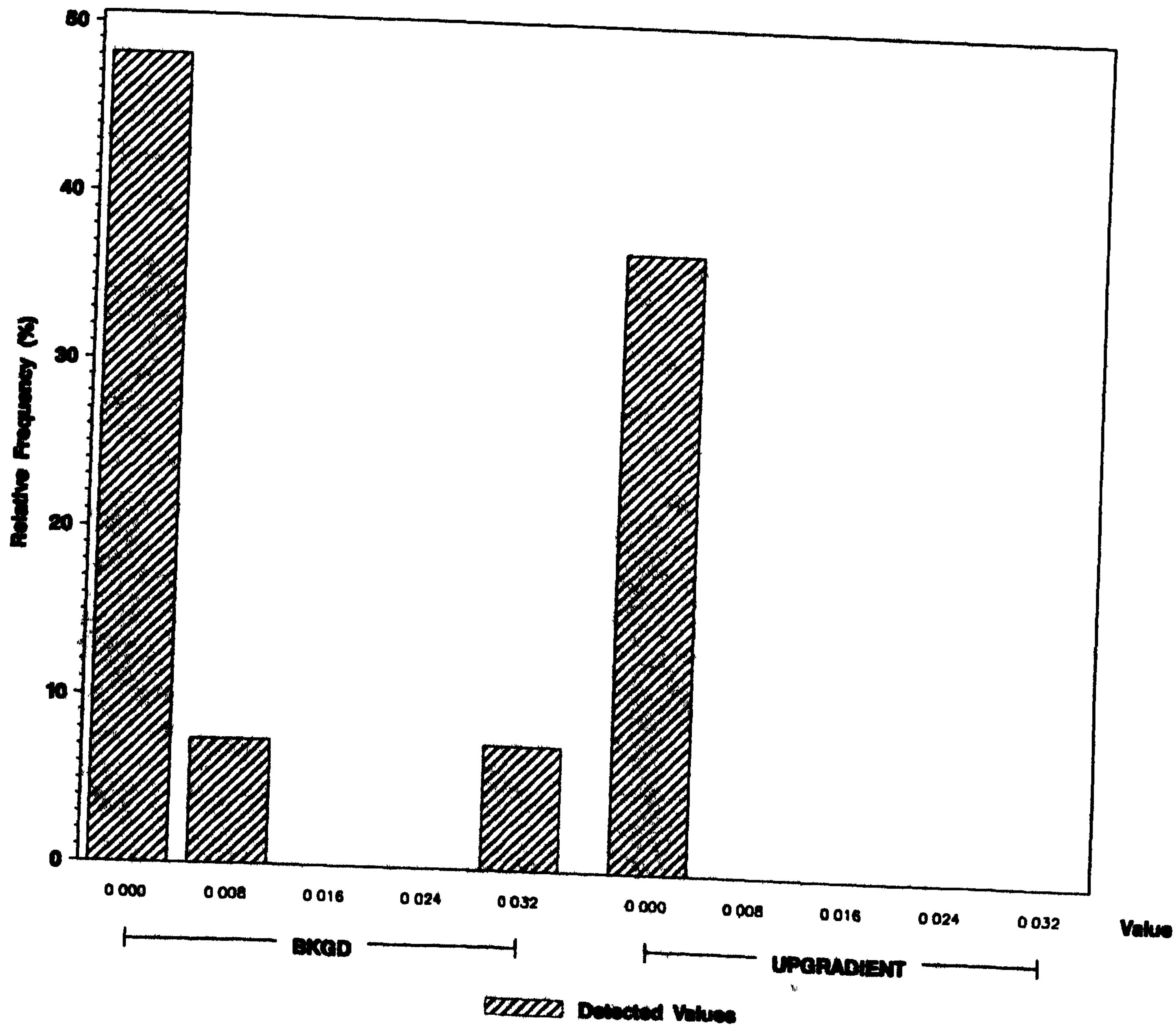
ANALYTE=GROSS BETA – DISSOLVED



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total PLUTONIUM-238 (pCi/L) in Groundwater

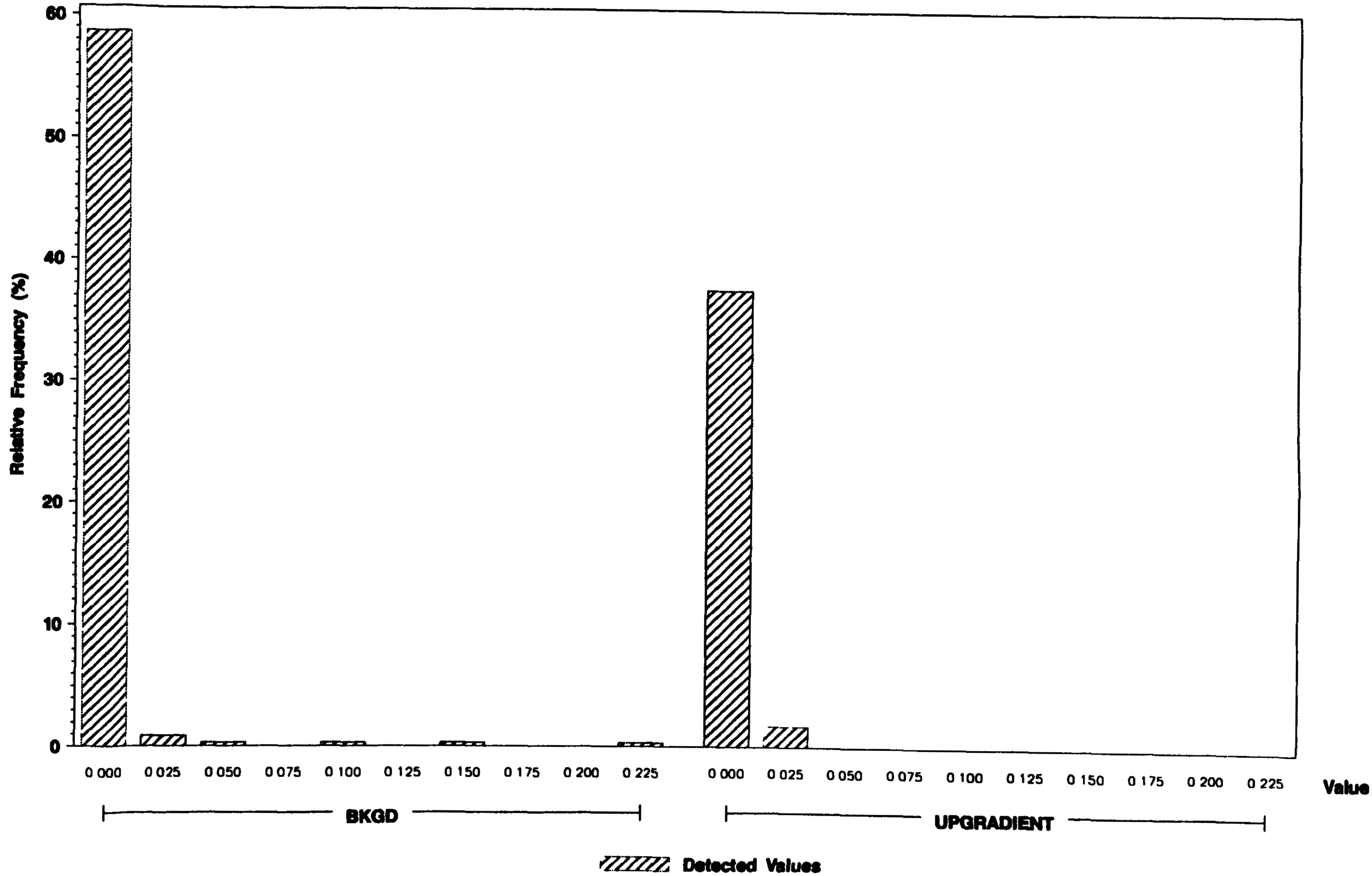
ANALYTE=PLUTONIUM-238



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total PLUTONIUM-239/240 (pCi/L) in Groundwater

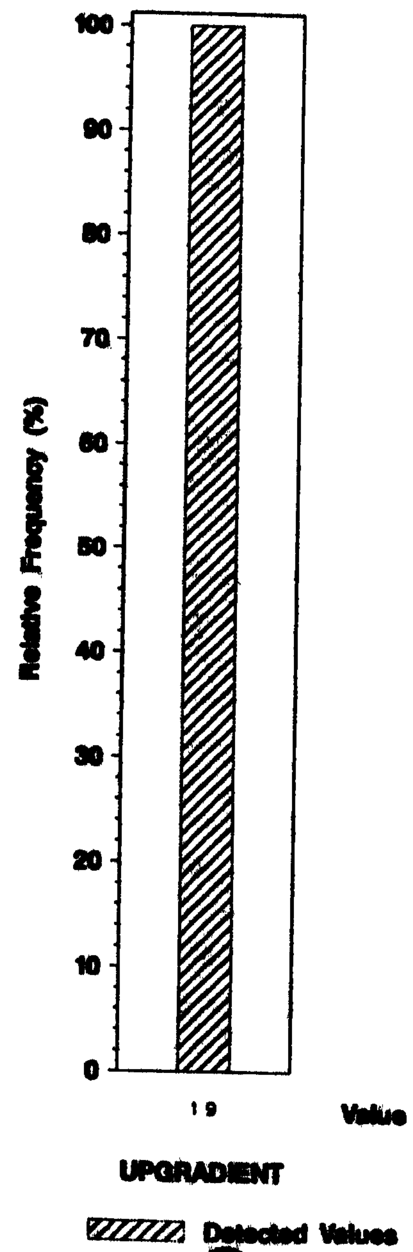
ANALYTE=PLUTONIUM-239/240



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total TOTAL RADIOCESIUM (pCi/L) in Groundwater

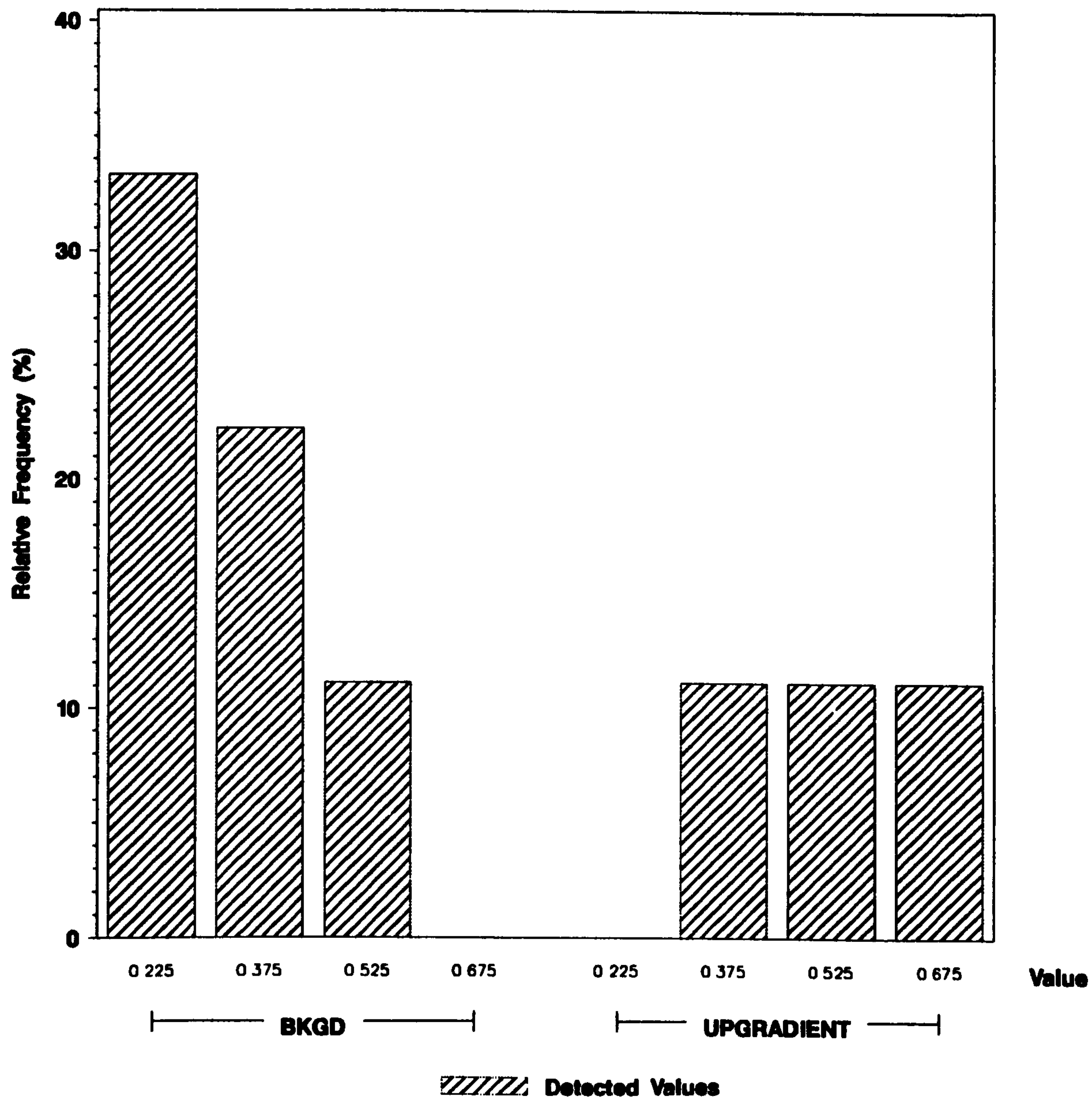
ANALYTE = TOTAL RADIOCESIUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total RADIUM – 226 (pCi/L) in Groundwater

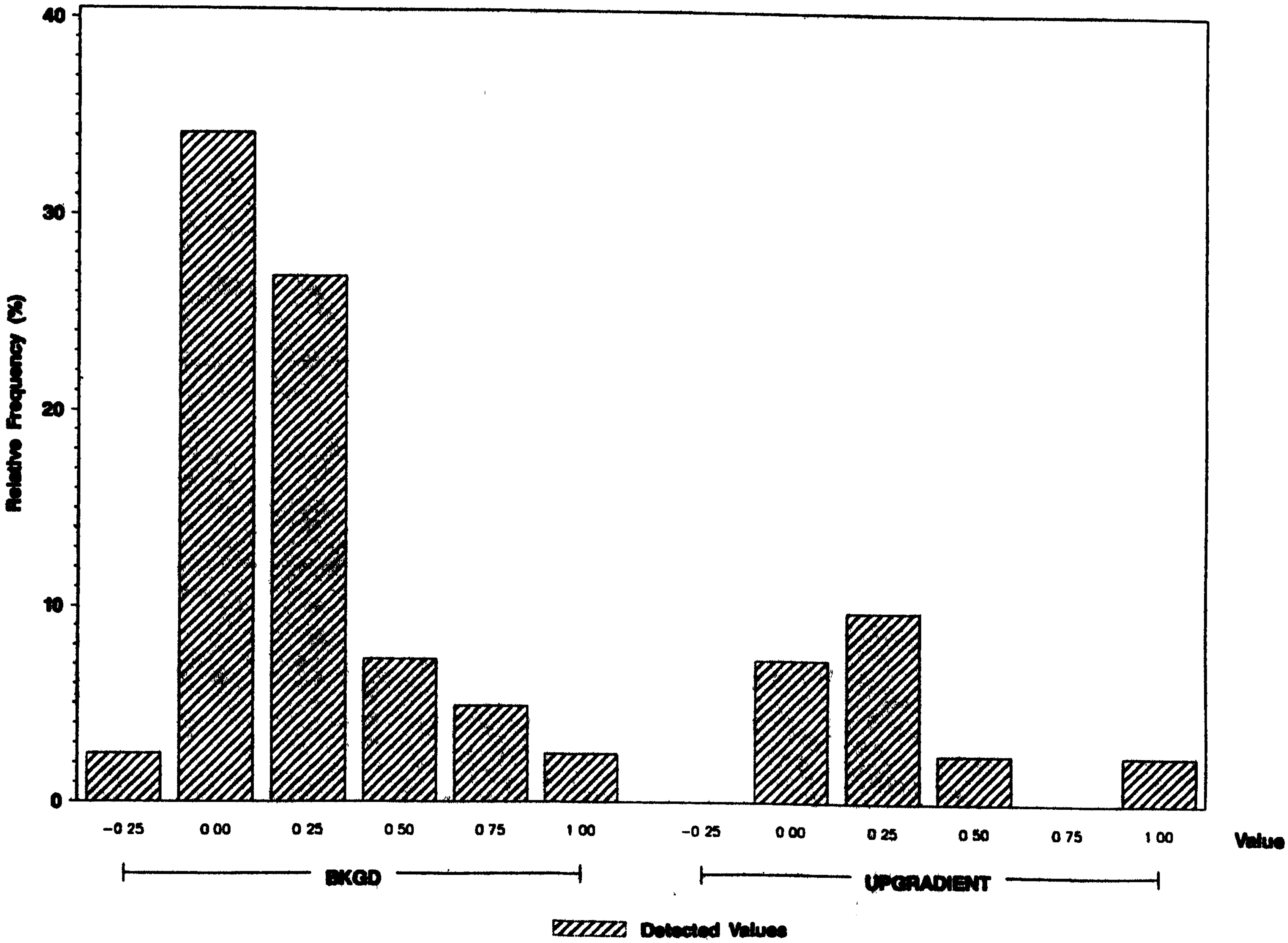
ANALYTE = RADIUM – 226



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total STRONTIUM-89,90 (pCi/L) in Groundwater

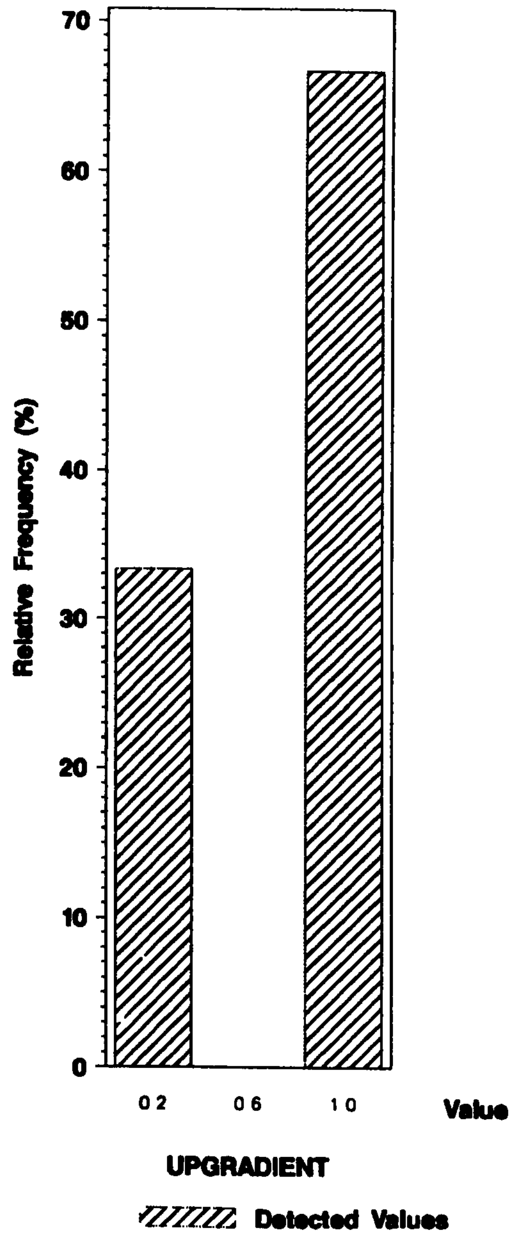
ANALYTE=STRONTIUM-89,90



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total STRONTIUM−90 (pCi/L) in Groundwater

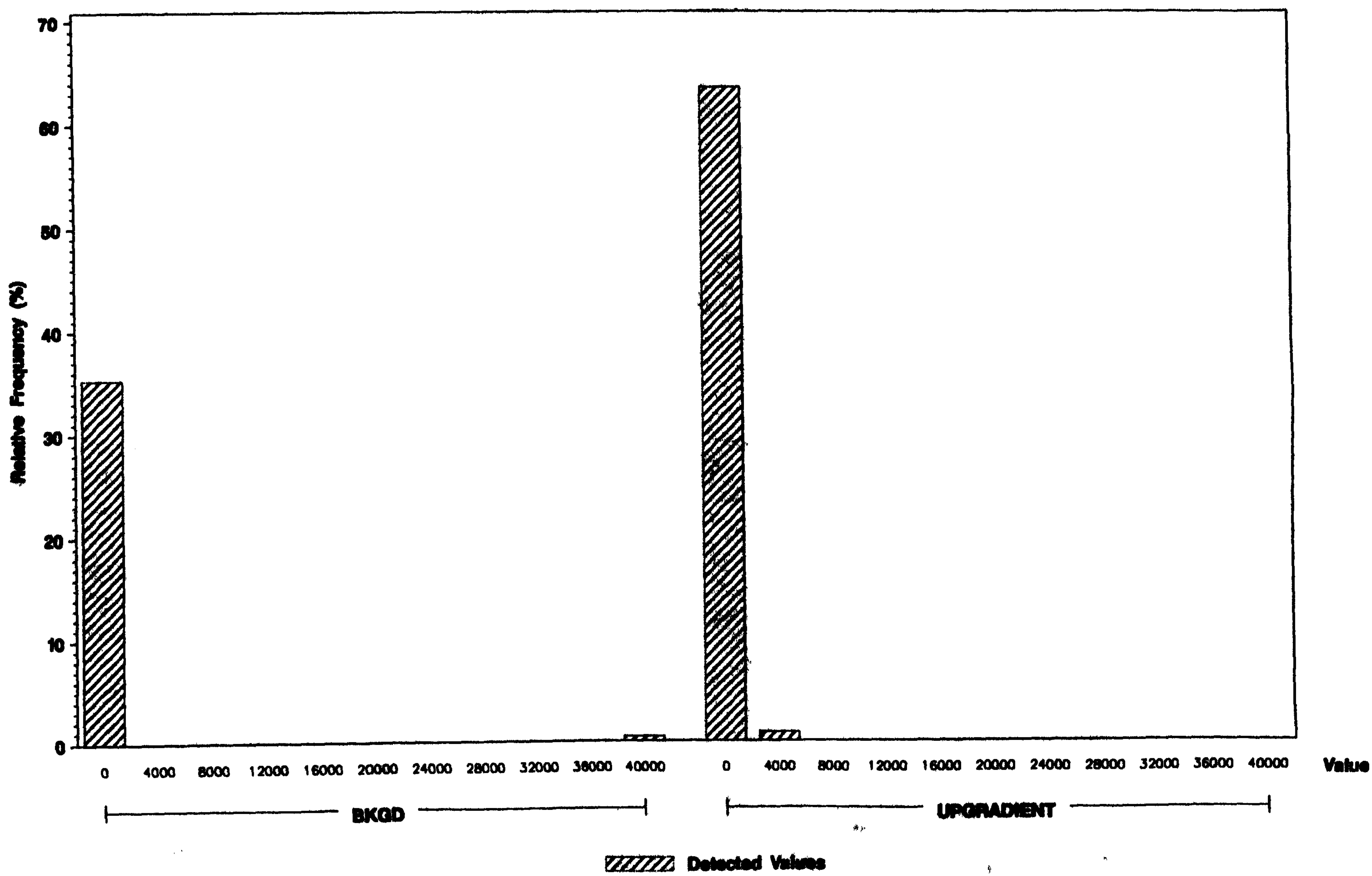
ANALYTE=STRONTIUM−90



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total TRITIUM (pCi/L) in Groundwater

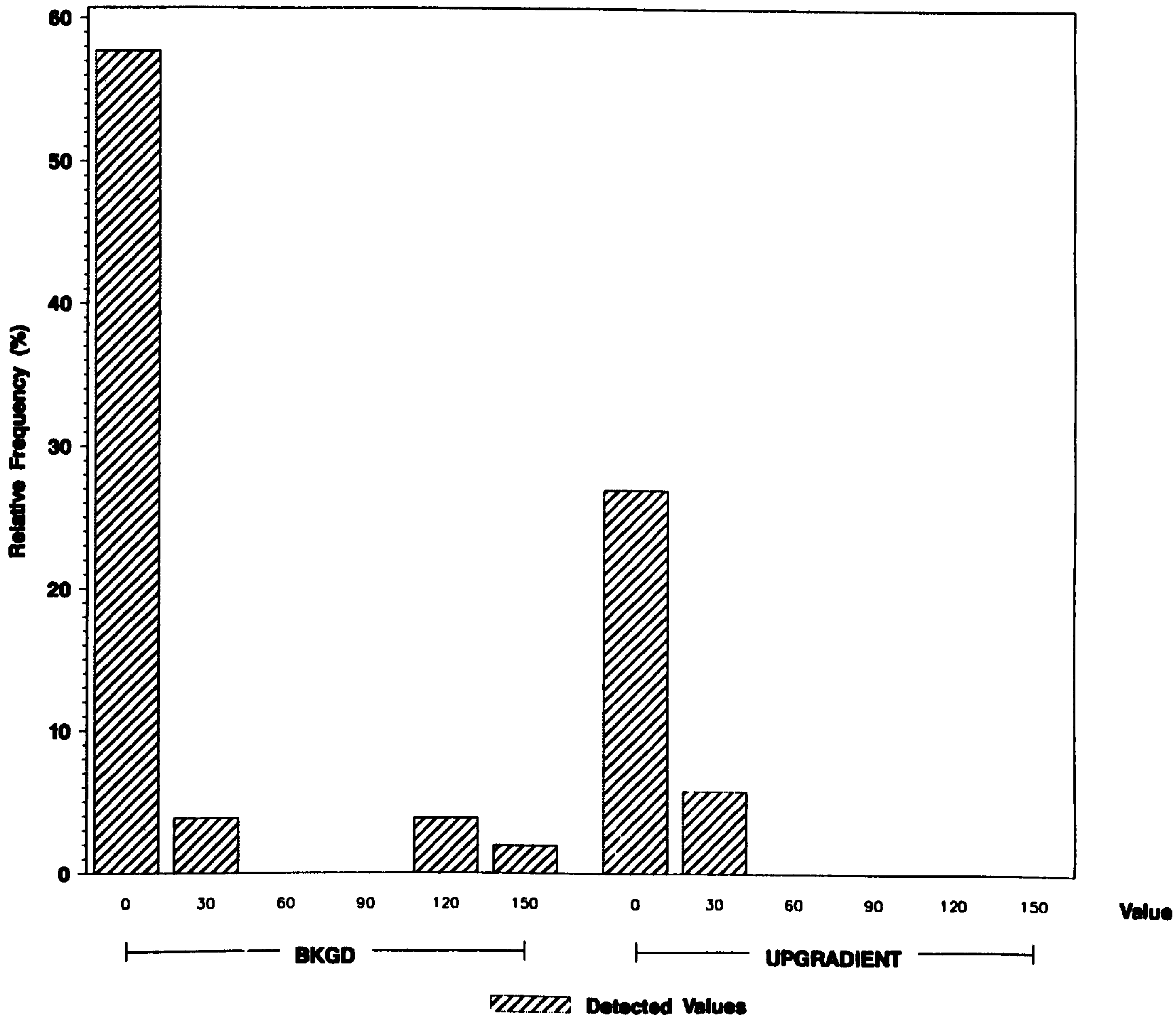
ANALYTE = TRITIUM



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total URANIUM−233,−234 (pCi/L) in Groundwater

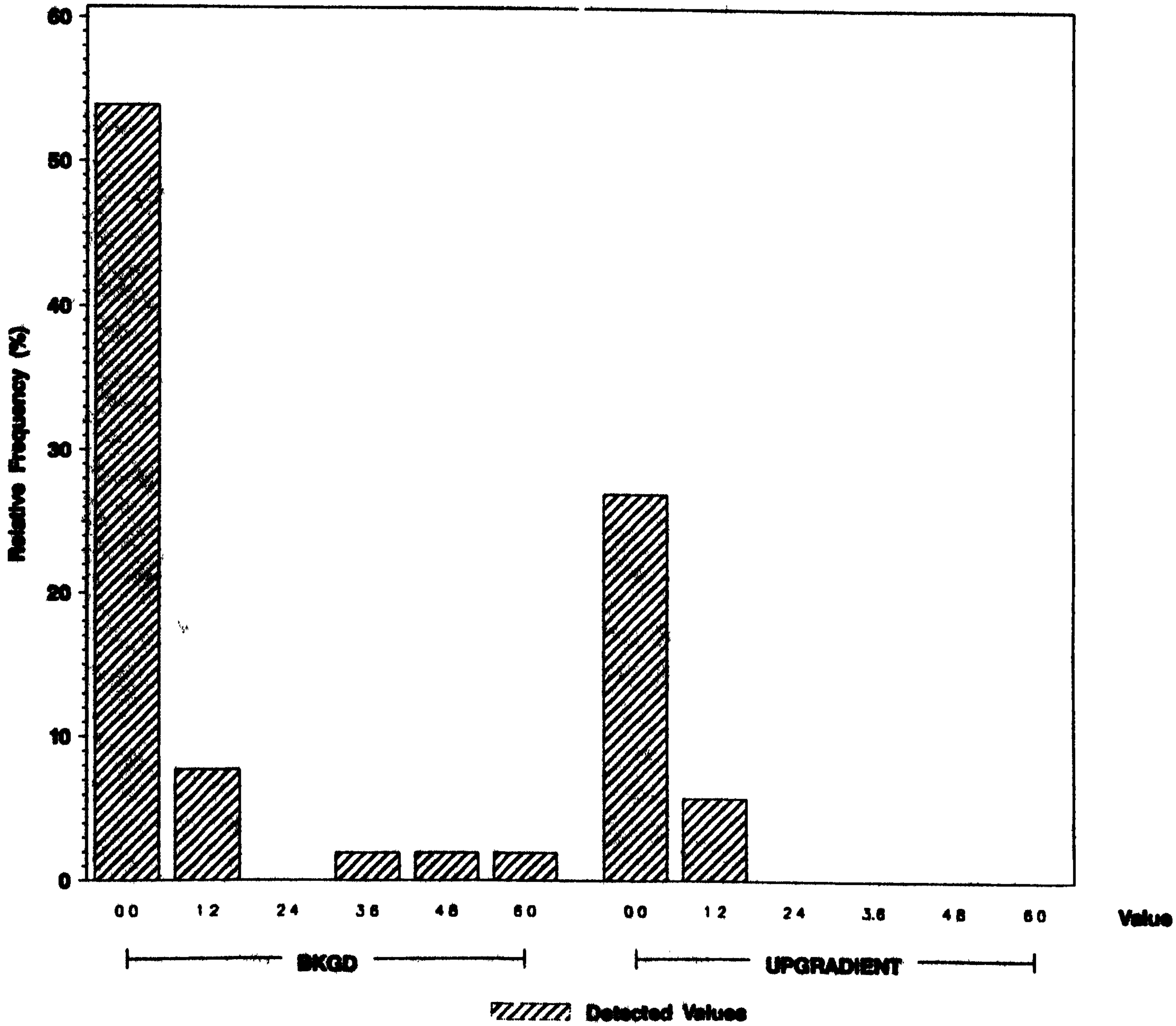
ANALYTE=URANIUM−233,−234



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total URANIUM-235 (pCi/L) in Groundwater

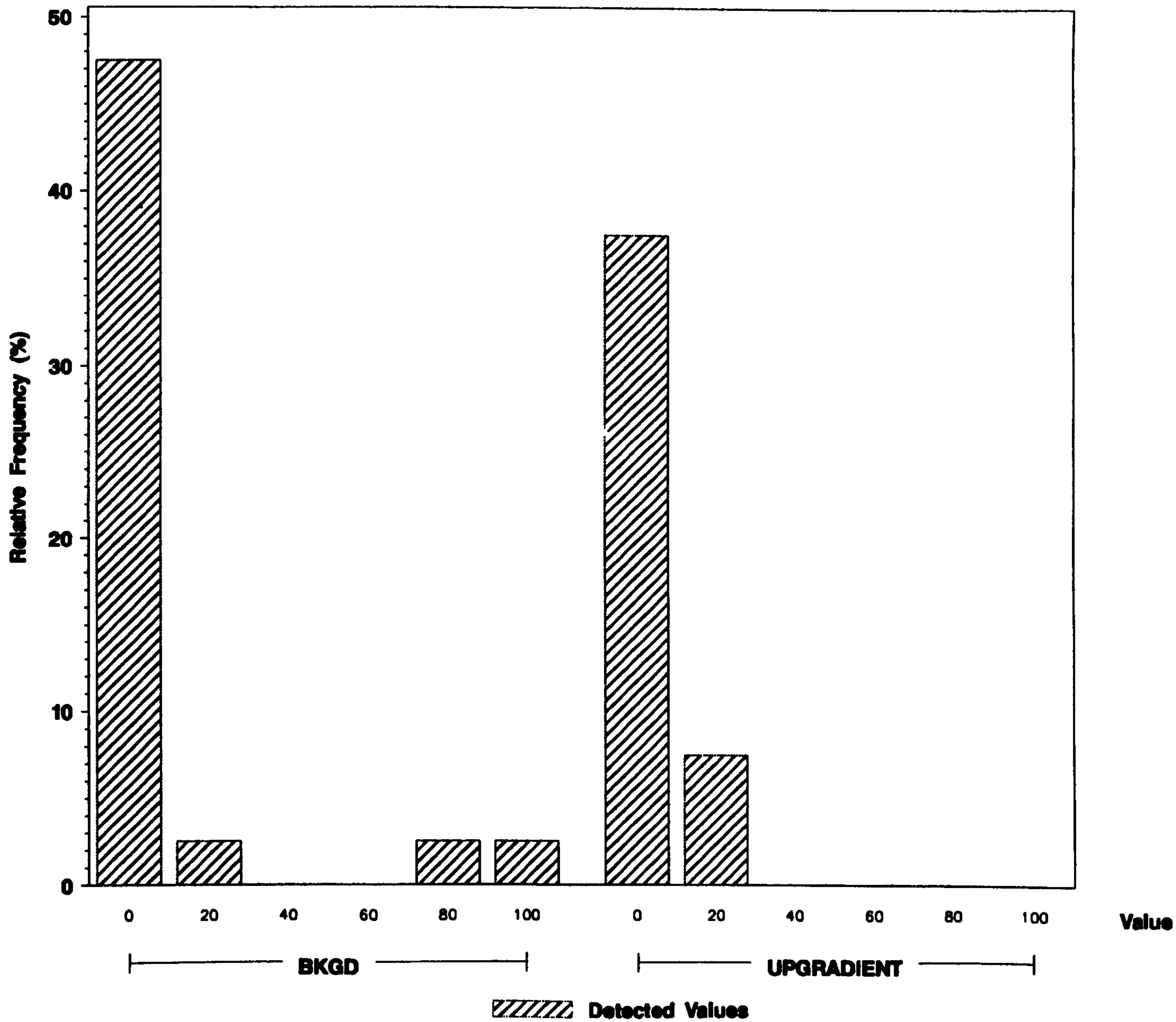
ANALYTE=URANIUM-235



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

Total URANIUM-238 (pCi/L) in Groundwater

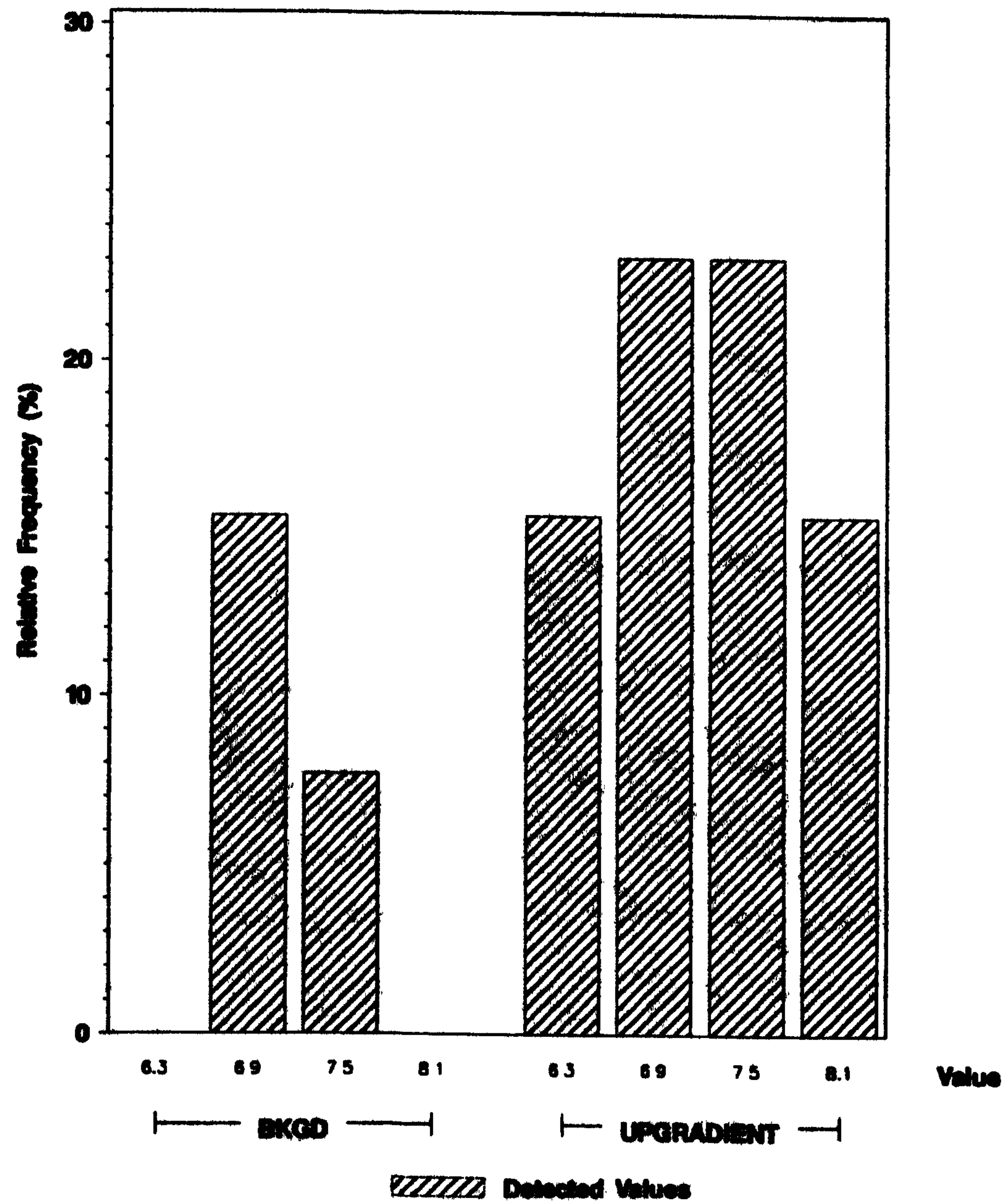
ANALYTE=URANIUM-238



Background vs OU7 Upgradient Groundwater (UHSU) Frequency Histogram

pH (Standard Units) in Groundwater

ANALYTE=pH



Groundwater

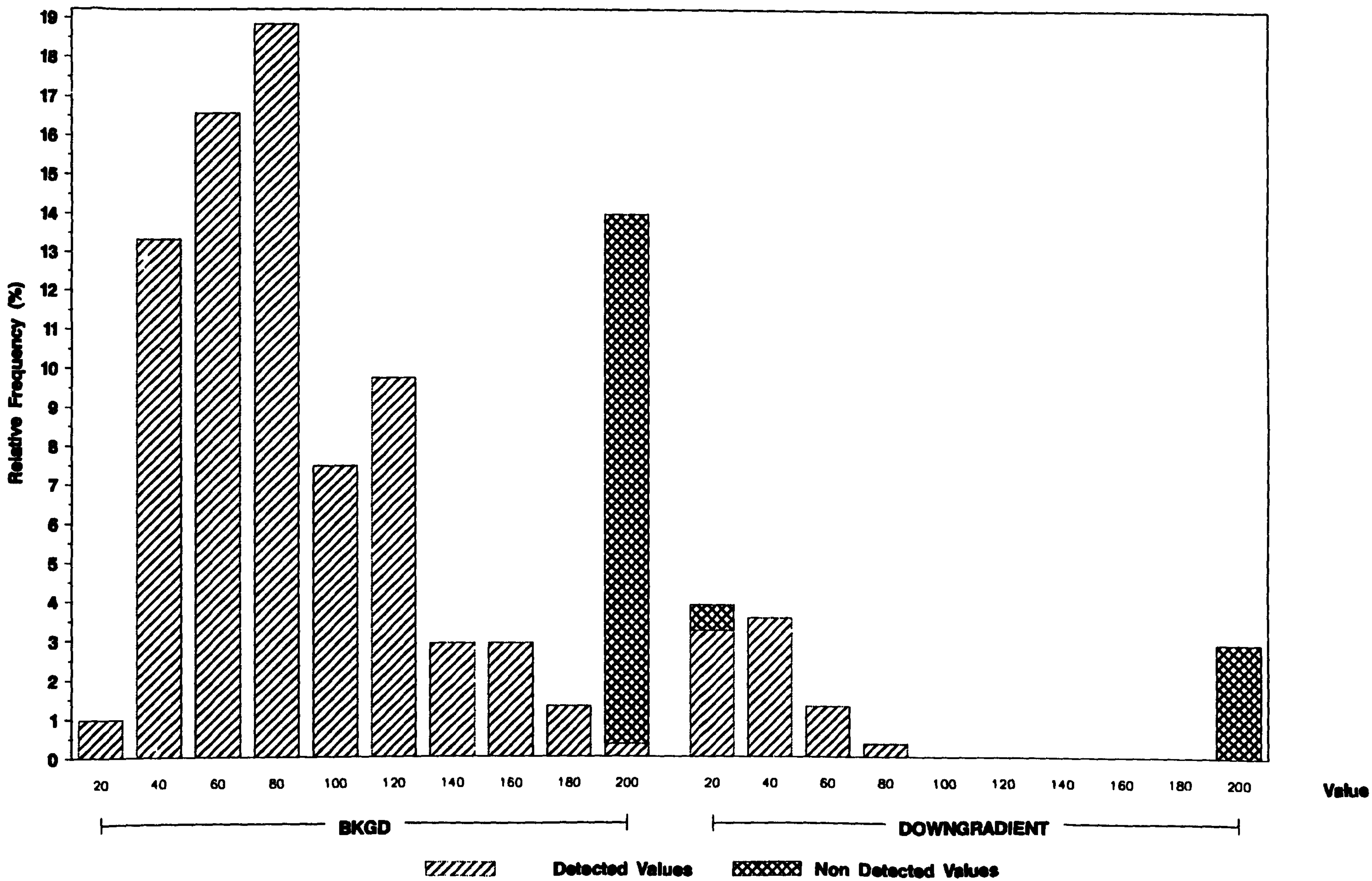
(Dissolved)

Background vs. OU 7 Downgradient UHSU

Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Dissolved BARIUM (ug/L) in Groundwater

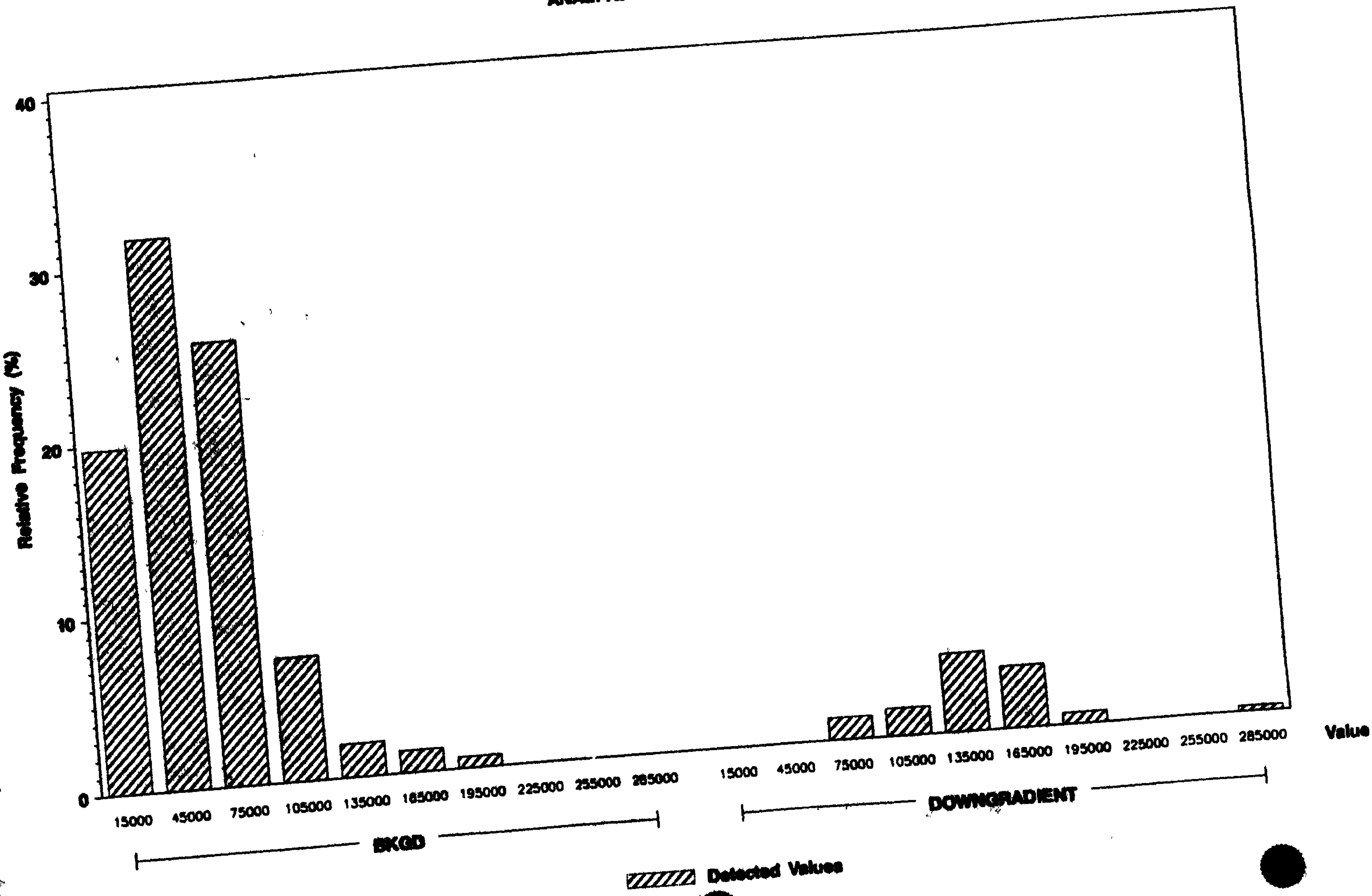
ANALYTE=BARIUM



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Dissolved CALCIUM (ug/L) in Groundwater

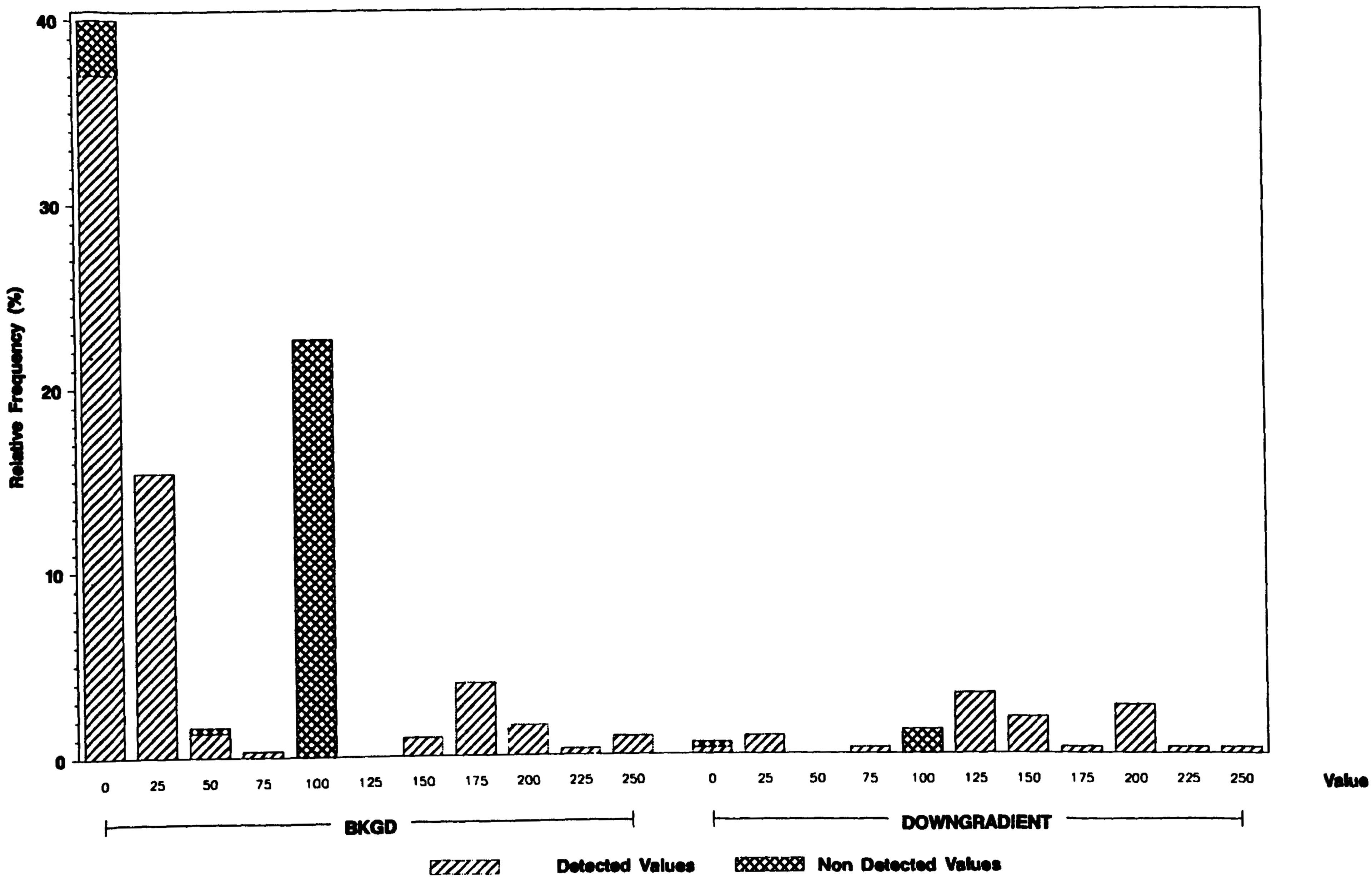
ANALYTE=CALCIUM



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Dissolved LITHIUM (ug/L) in Groundwater

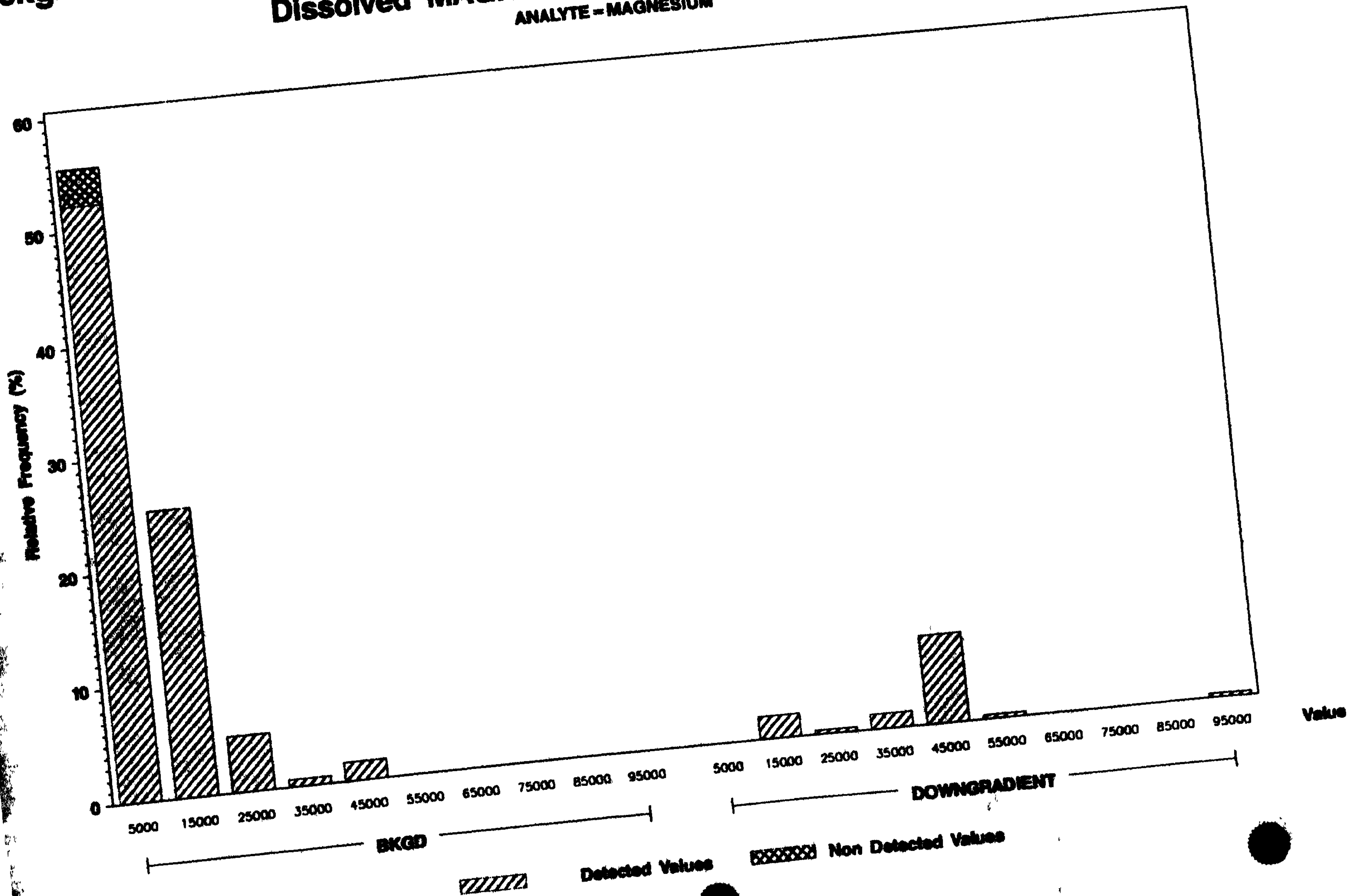
ANALYTE=LITHIUM



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Dissolved MAGNESIUM (ug/L) in Groundwater

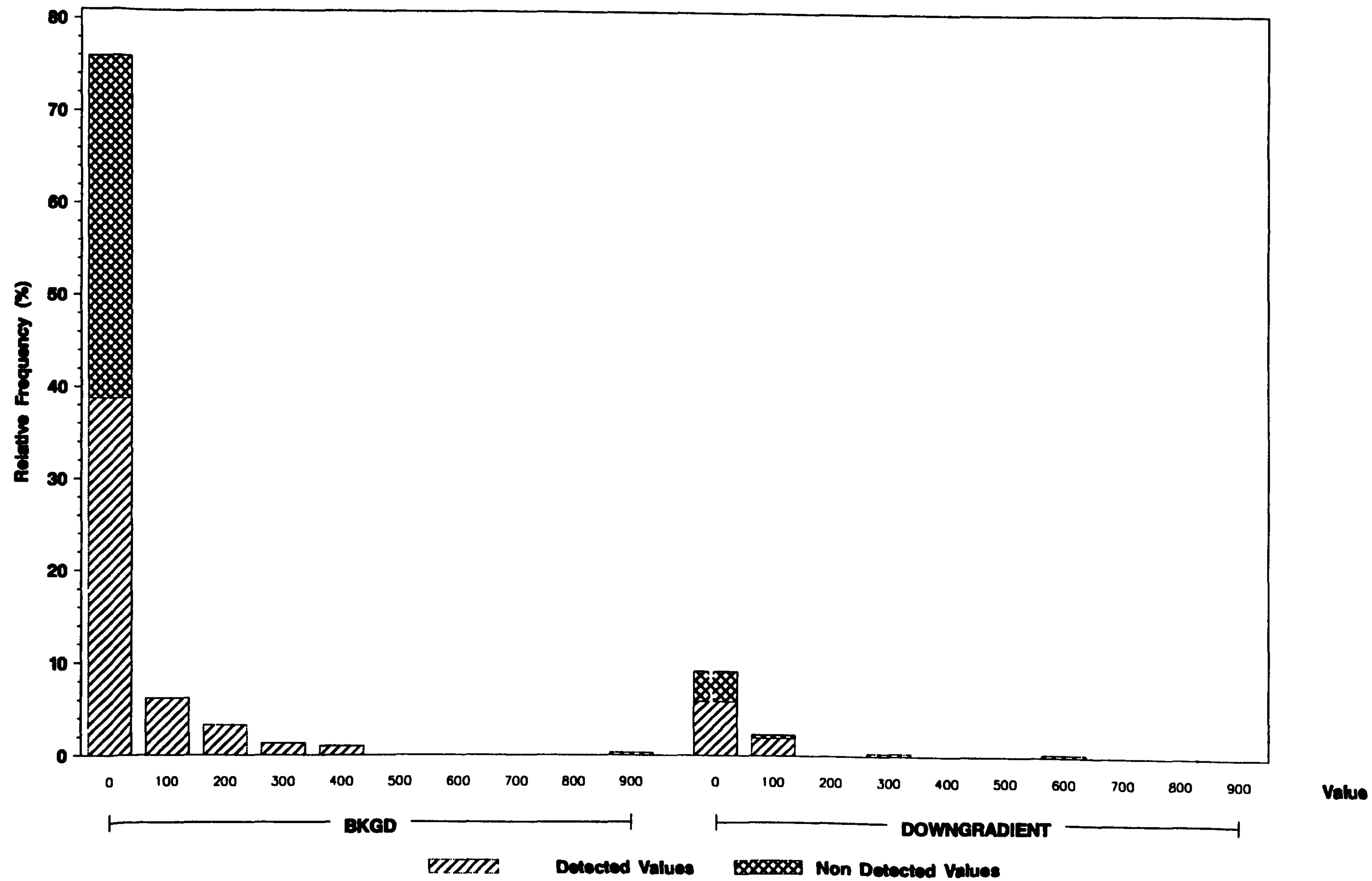
ANALYTE = MAGNESIUM



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Dissolved MANGANESE (ug/L) in Groundwater

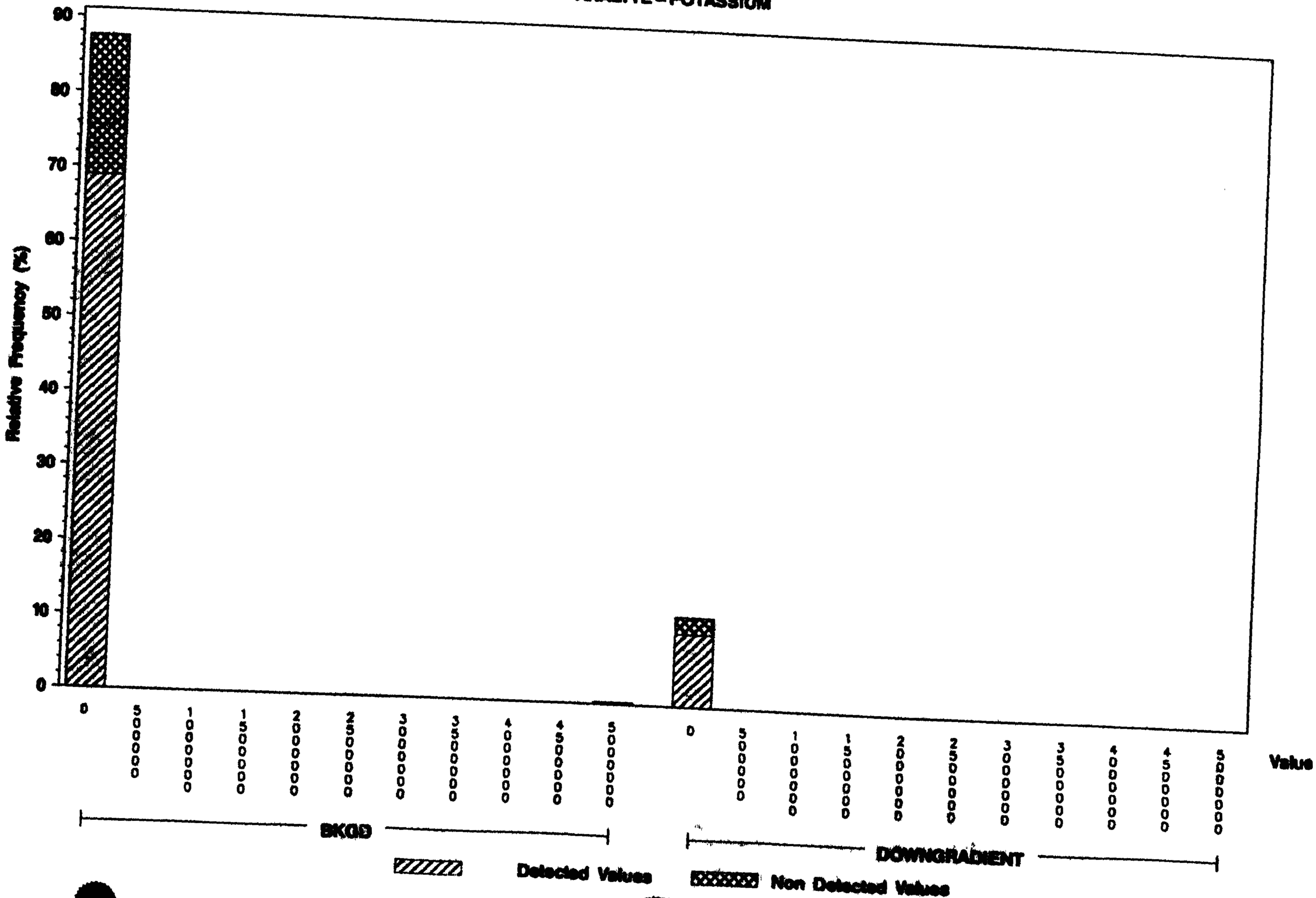
ANALYTE=MANGANESE



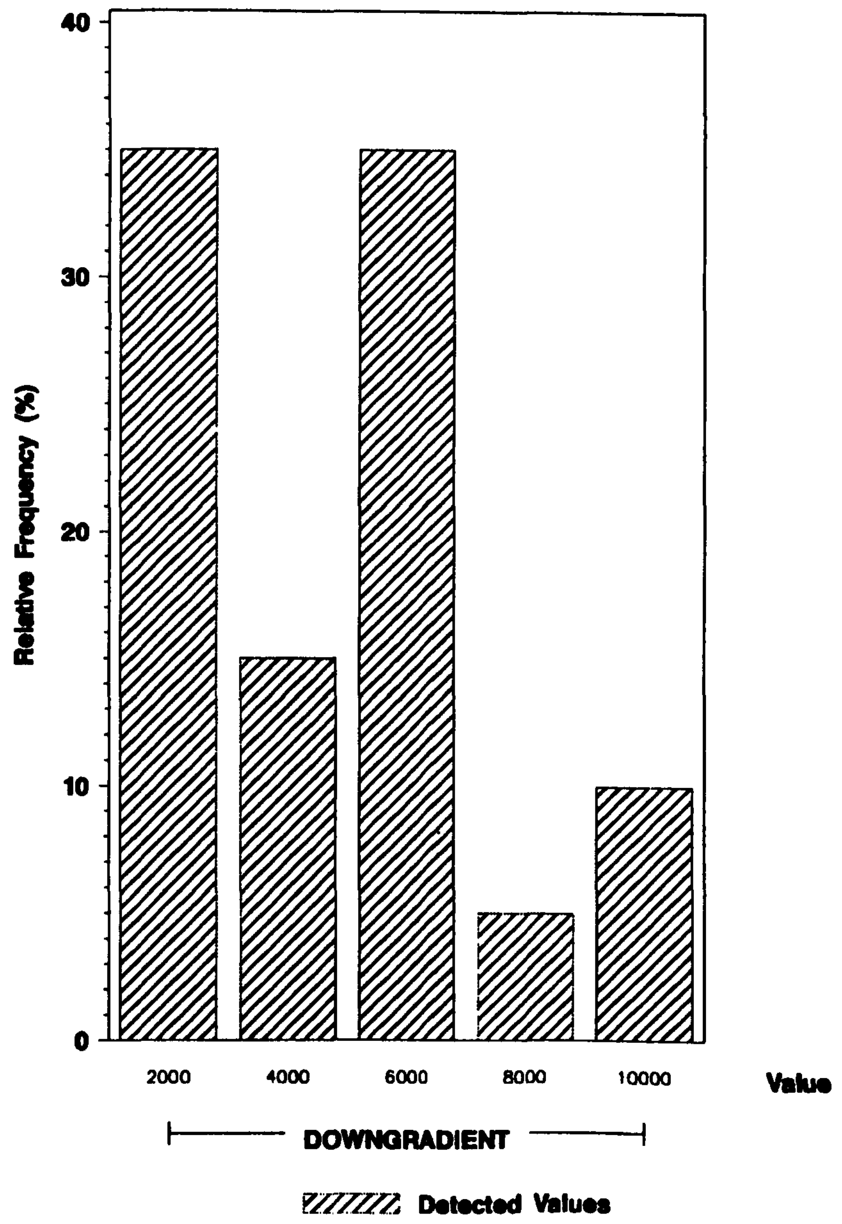
Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Dissolved POTASSIUM (ug/L) in Groundwater

ANALYTE=POTASSIUM



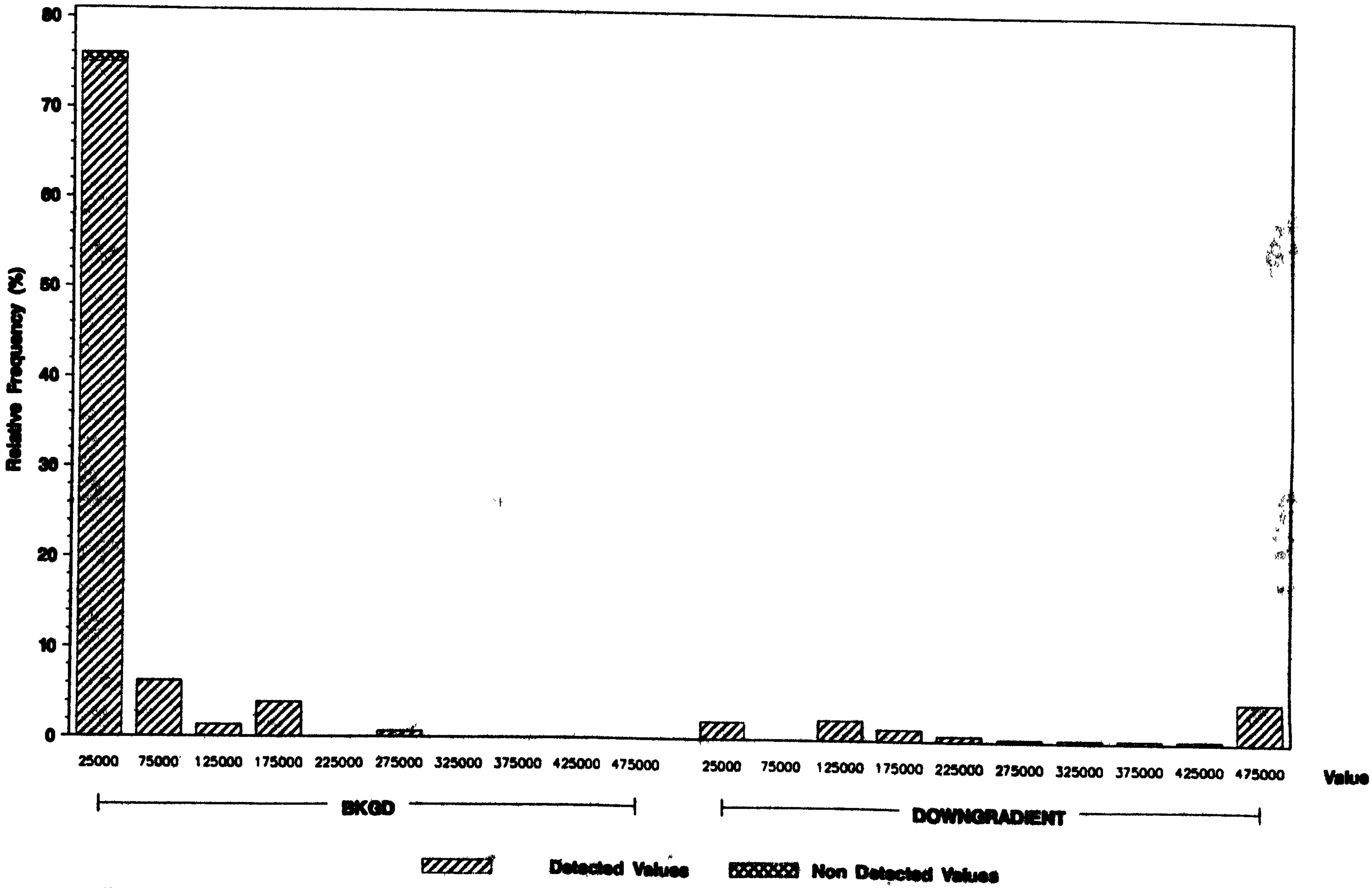
Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram
Dissolved SILICON (ug/L) in Groundwater
ANALYTE=SILICON



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Dissolved SODIUM (ug/L) in Groundwater

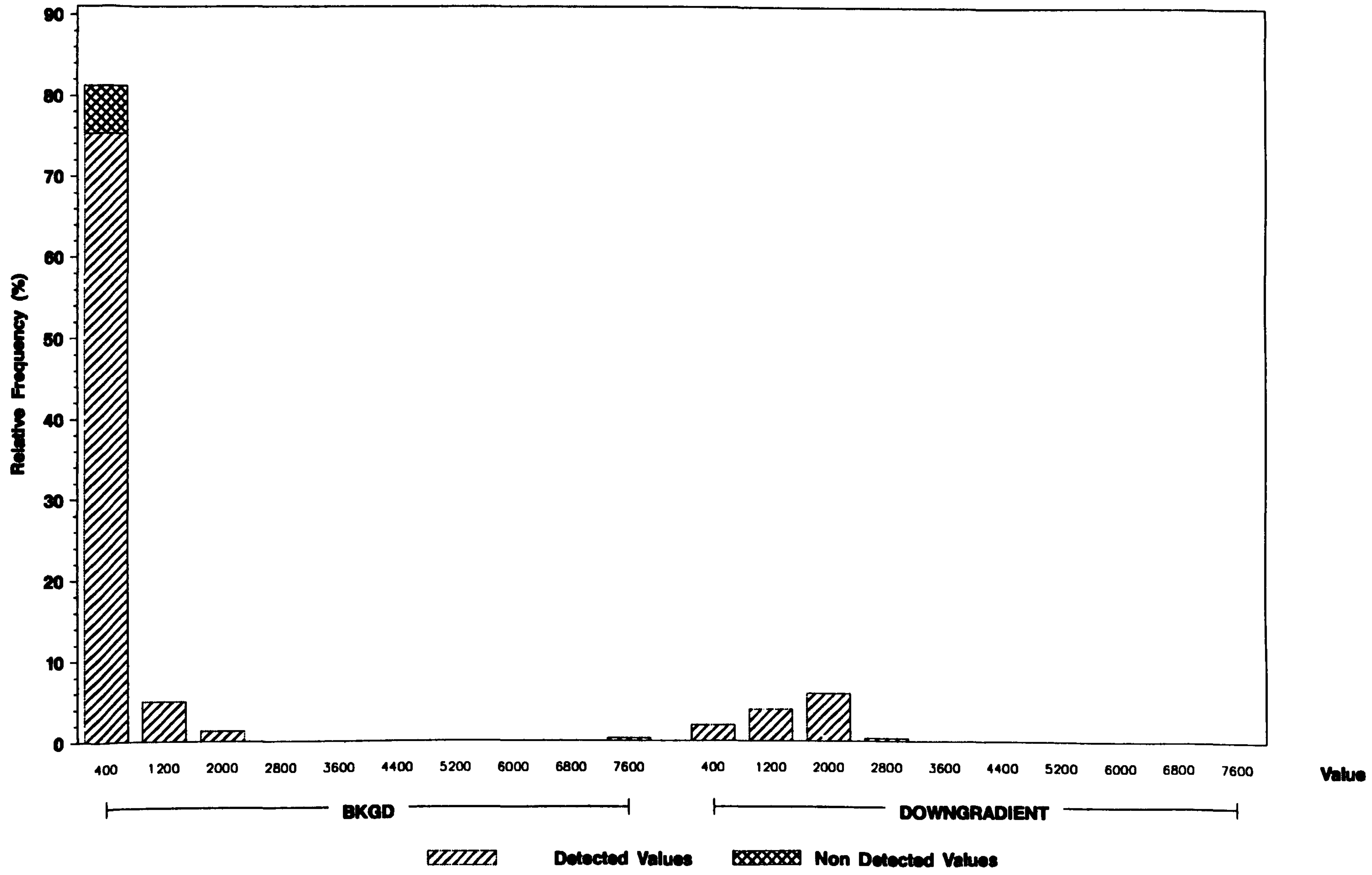
ANALYTE=SODIUM



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

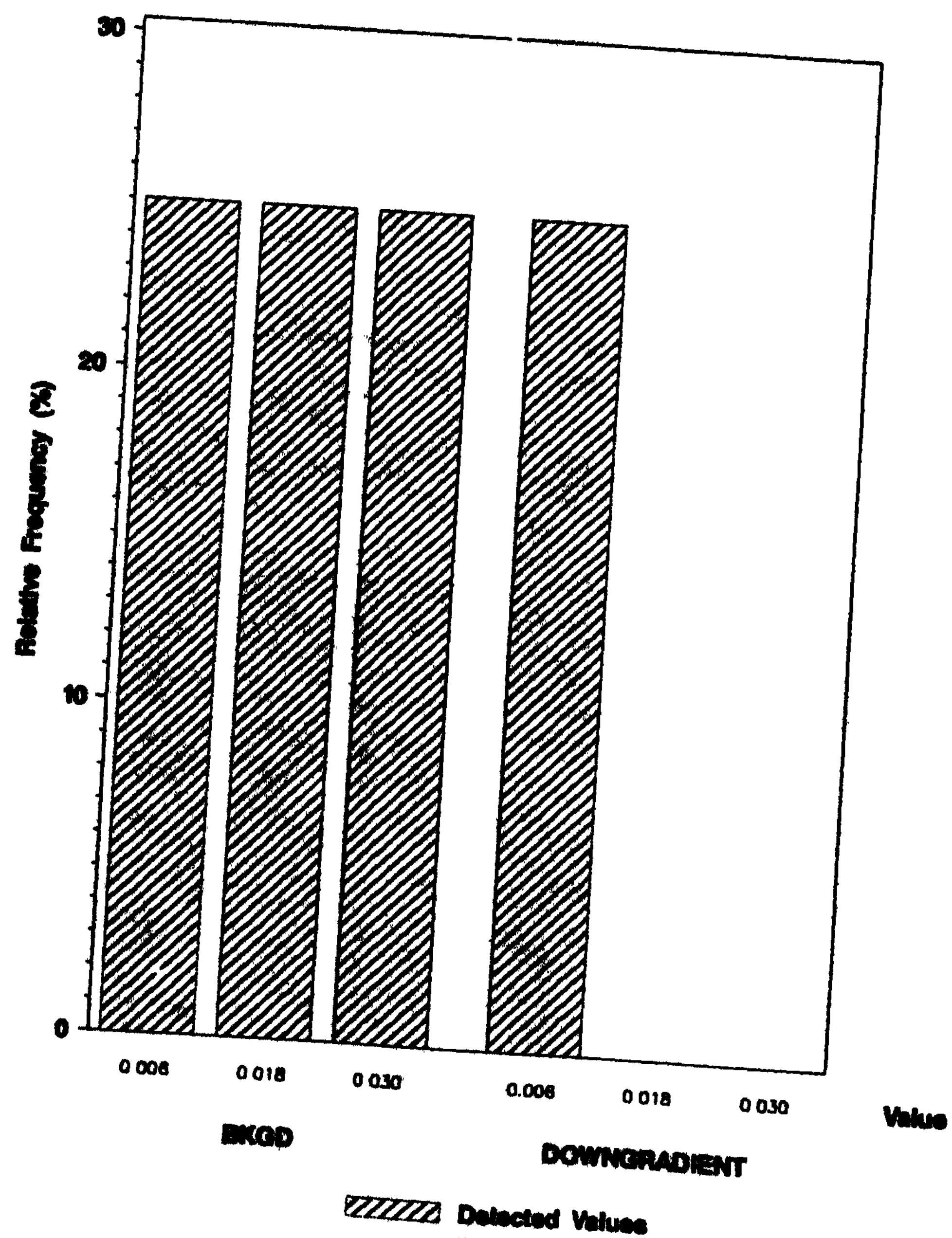
Dissolved STRONTIUM (ug/L) in Groundwater

ANALYTE = STRONTIUM



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram
Dissolved AMERICIUM-241 (pCi/L) in Groundwater

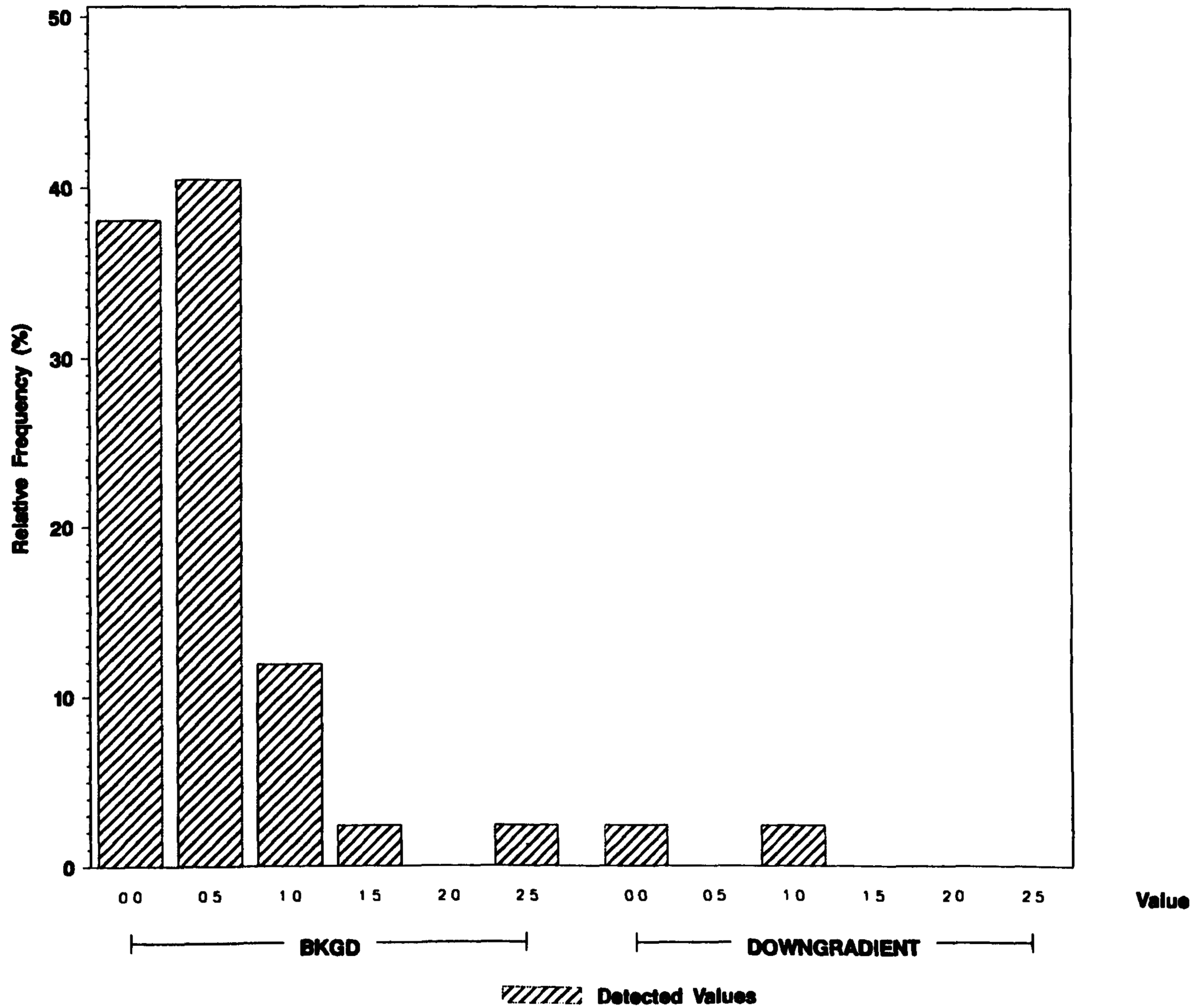
ANALYTE = AMERICIUM-241



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Dissolved CESIUM-137 (pCi/L) in Groundwater

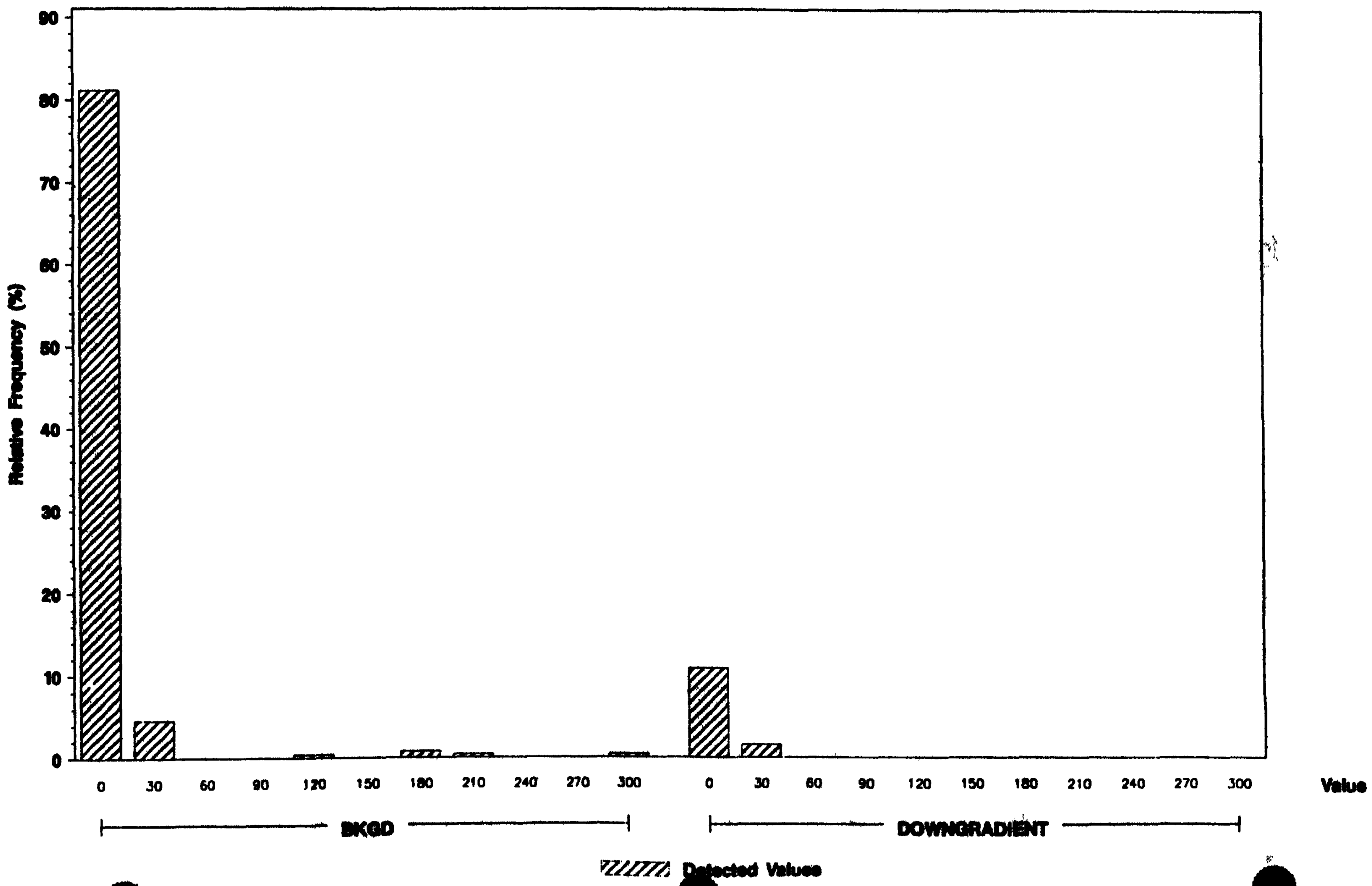
ANALYTE = CESIUM - 137



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

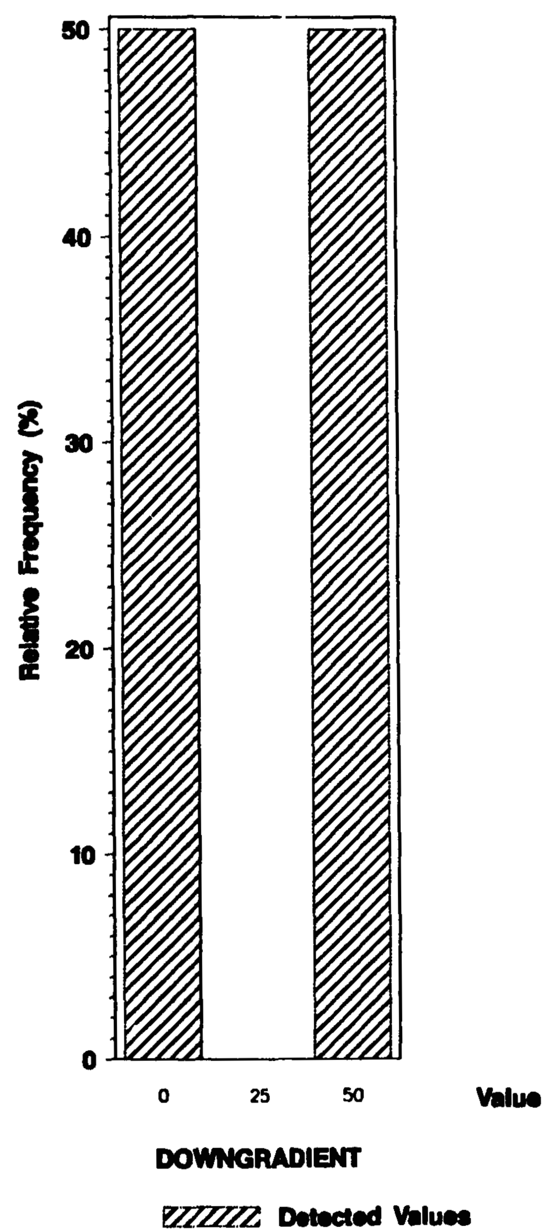
Dissolved GROSS ALPHA (pCi/L) in Groundwater

ANALYTE=GROSS ALPHA



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram
Dissolved GROSS ALPHA – SUSPENDED (pCi/L) in Groundwater

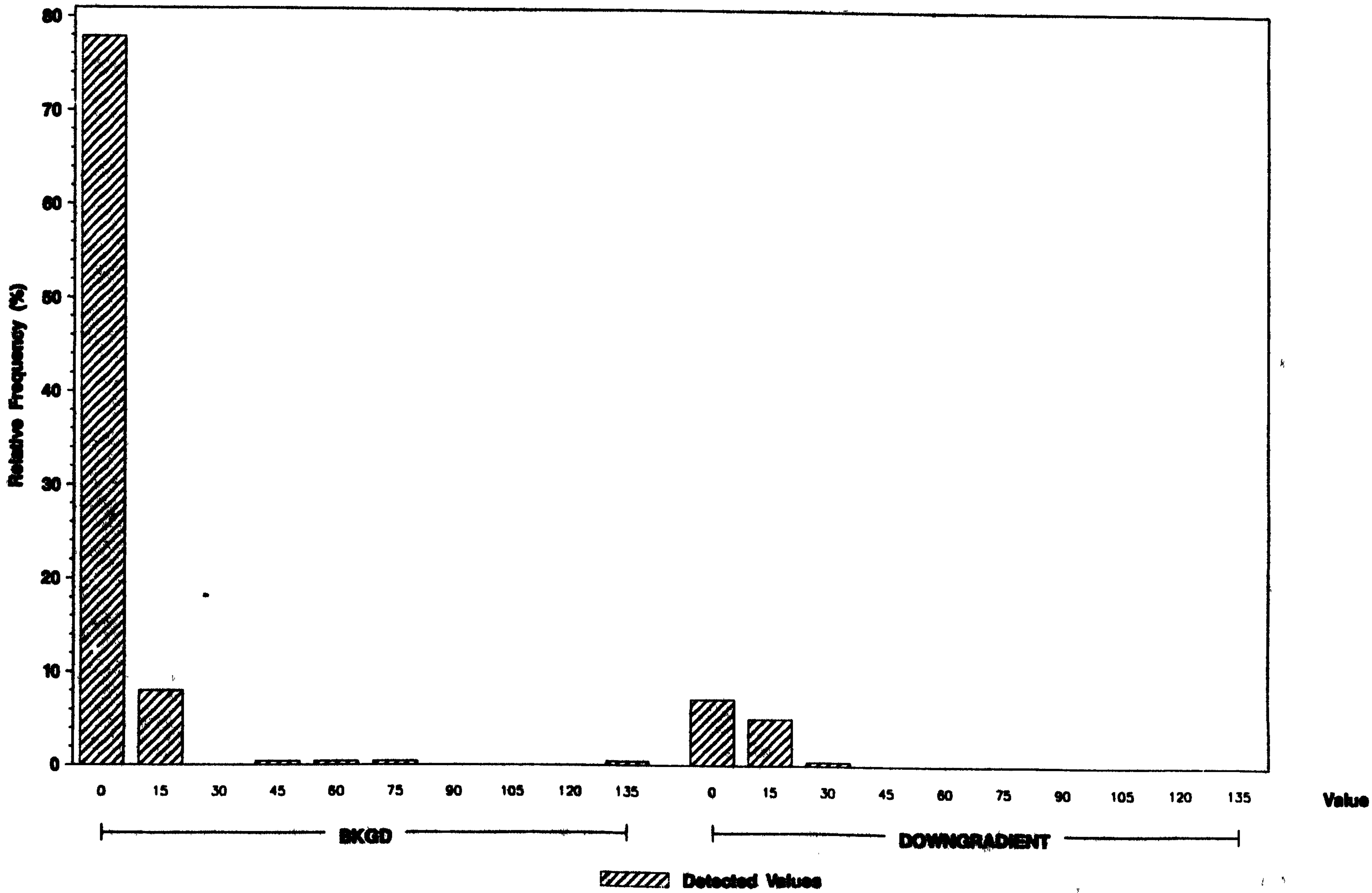
ANALYTE=GROSS ALPHA – SUSPENDED



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Dissolved GROSS BETA (pCi/L) in Groundwater

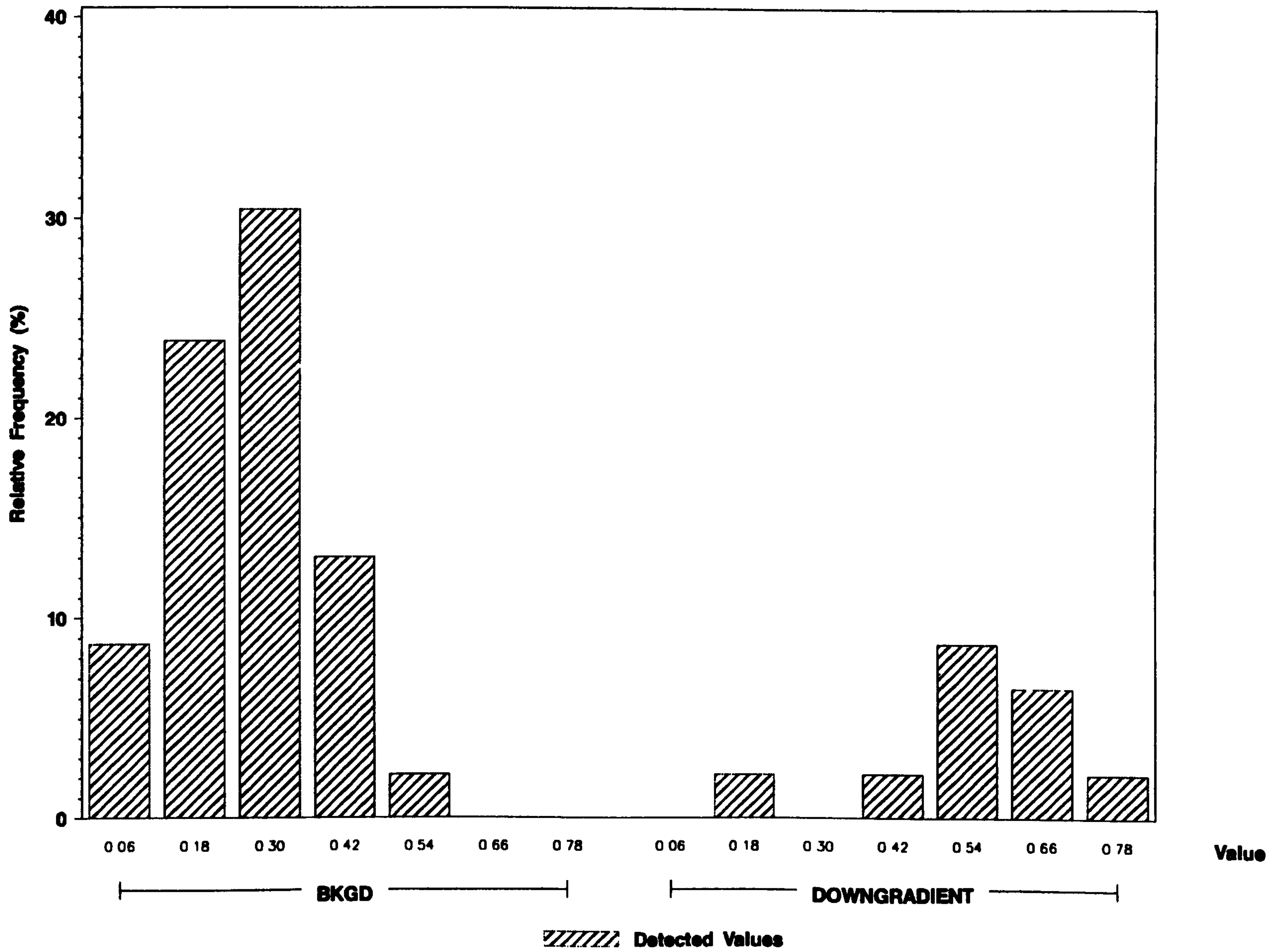
ANALYTE=GROSS BETA



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Dissolved RADIUM-226 (pCi/L) in Groundwater

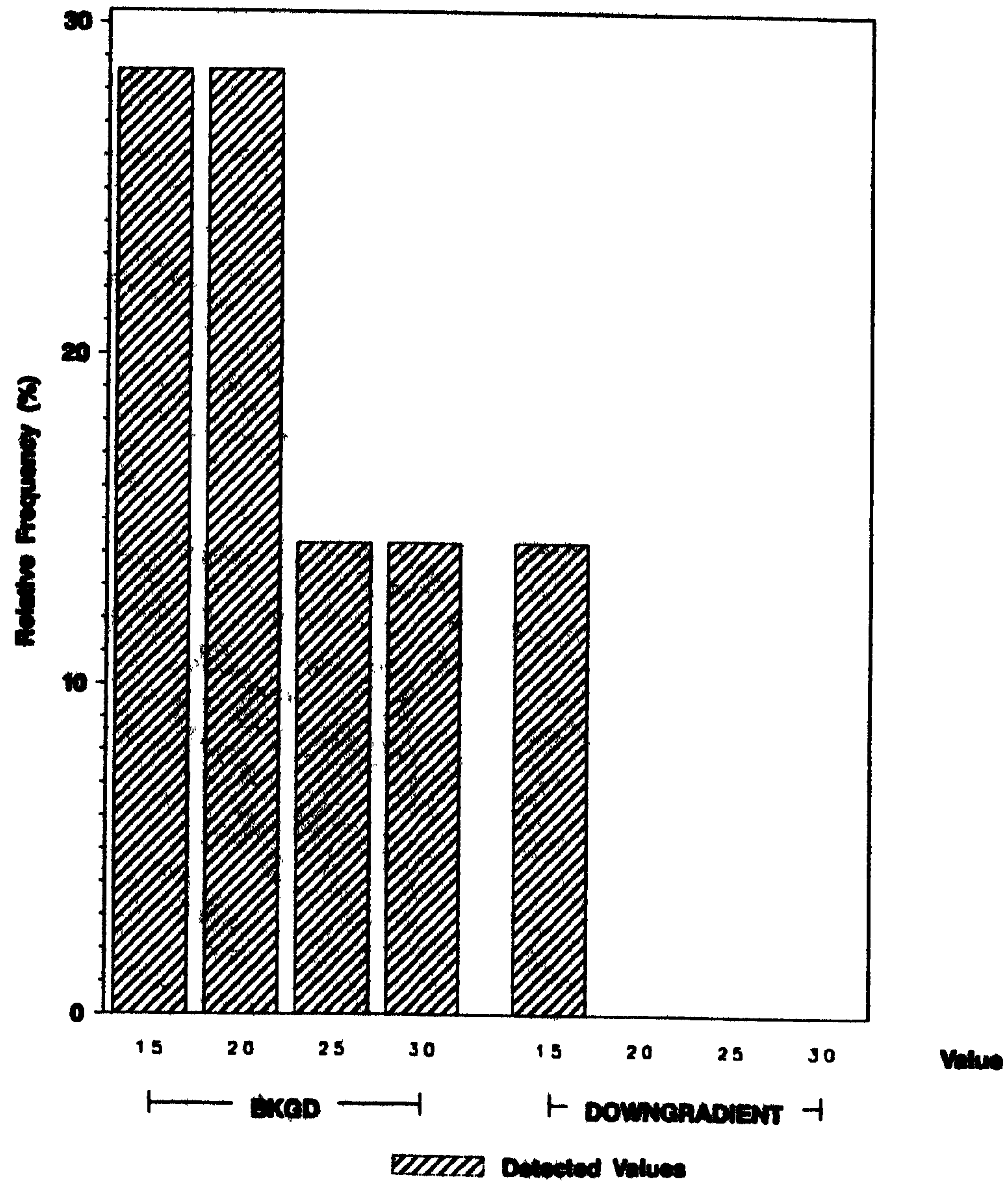
ANALYTE = RADIUM-226



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Dissolved RADIUM – 228 (pCi/L) in Groundwater

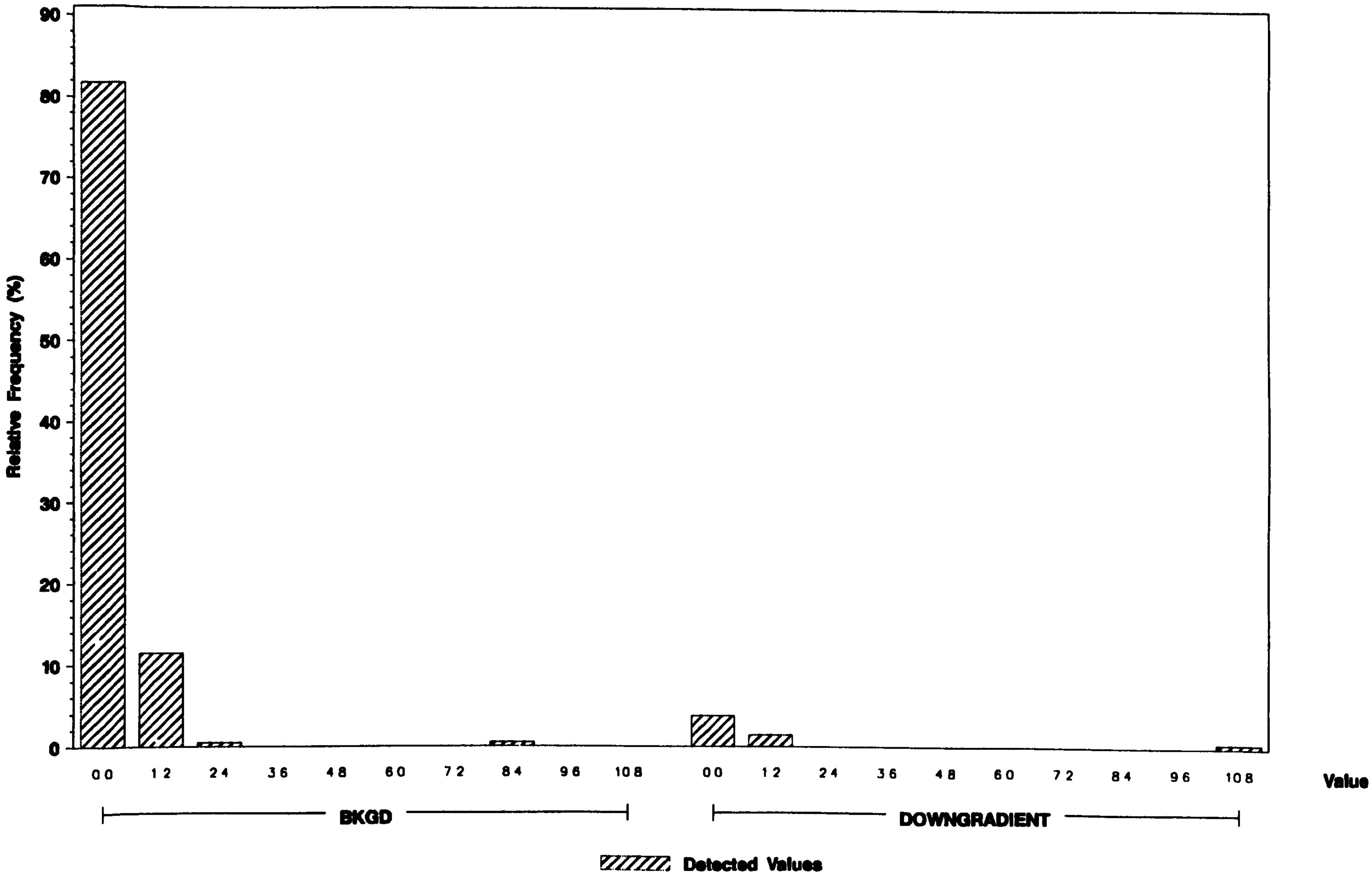
ANALYTE = RADIUM – 228



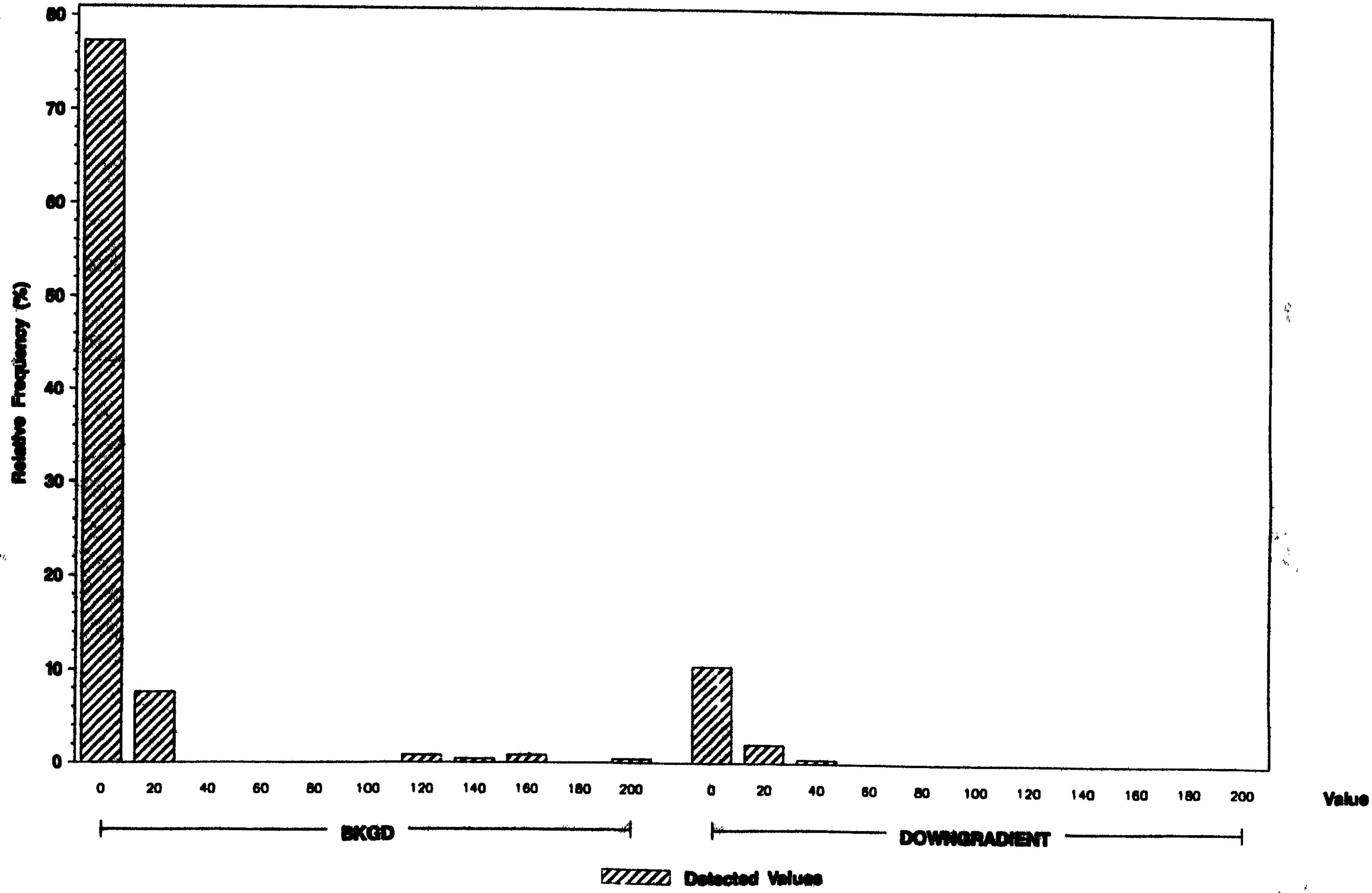
Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Dissolved STRONTIUM-89,90 (pCi/L) in Groundwater

ANALYTE = STRONTIUM-89,90



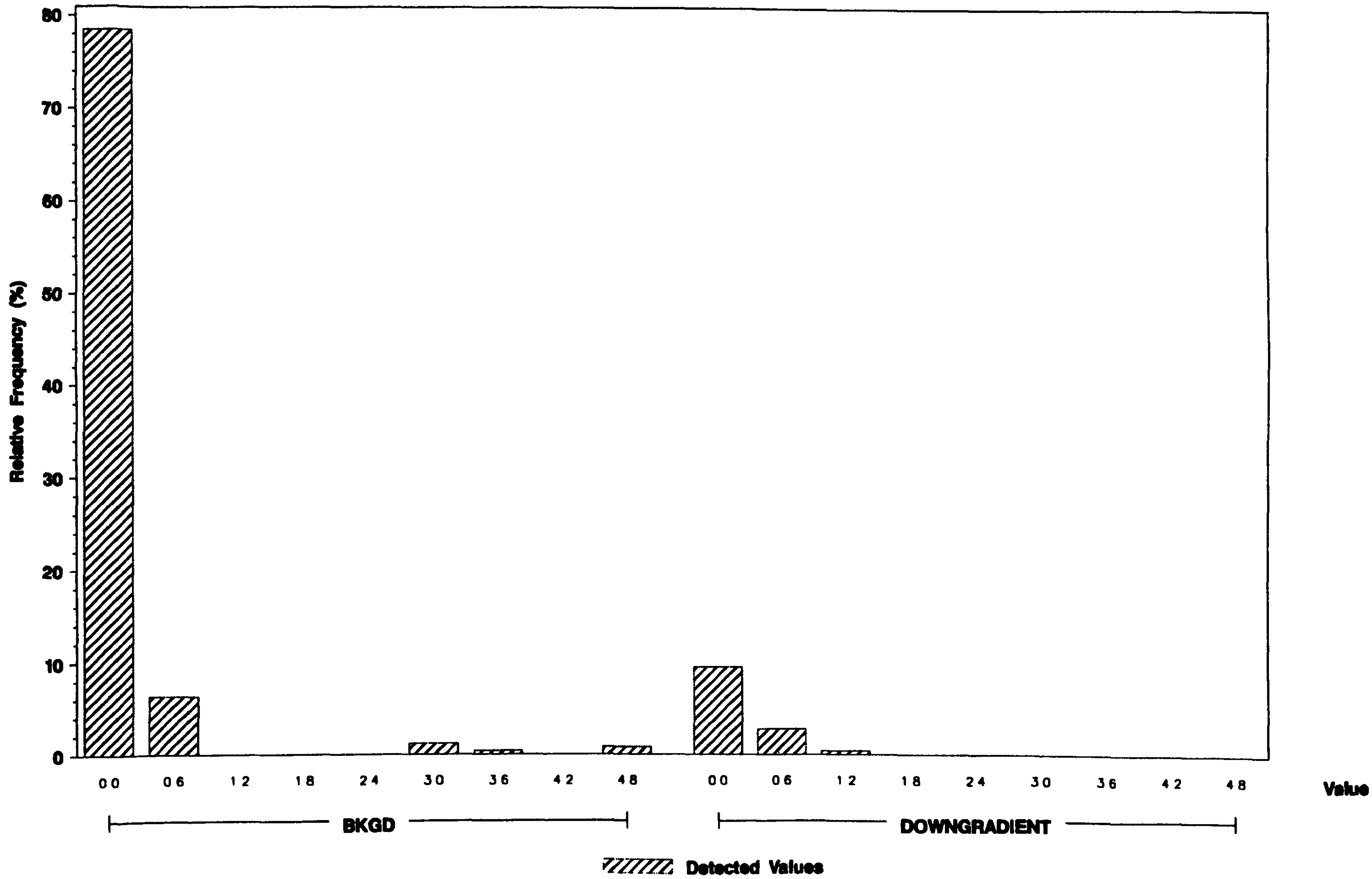
Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram
Dissolved URANIUM-233,-234 (pCi/L) in Groundwater
ANALYTE=URANIUM-233,-234



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Dissolved URANIUM-235 (pCi/L) in Groundwater

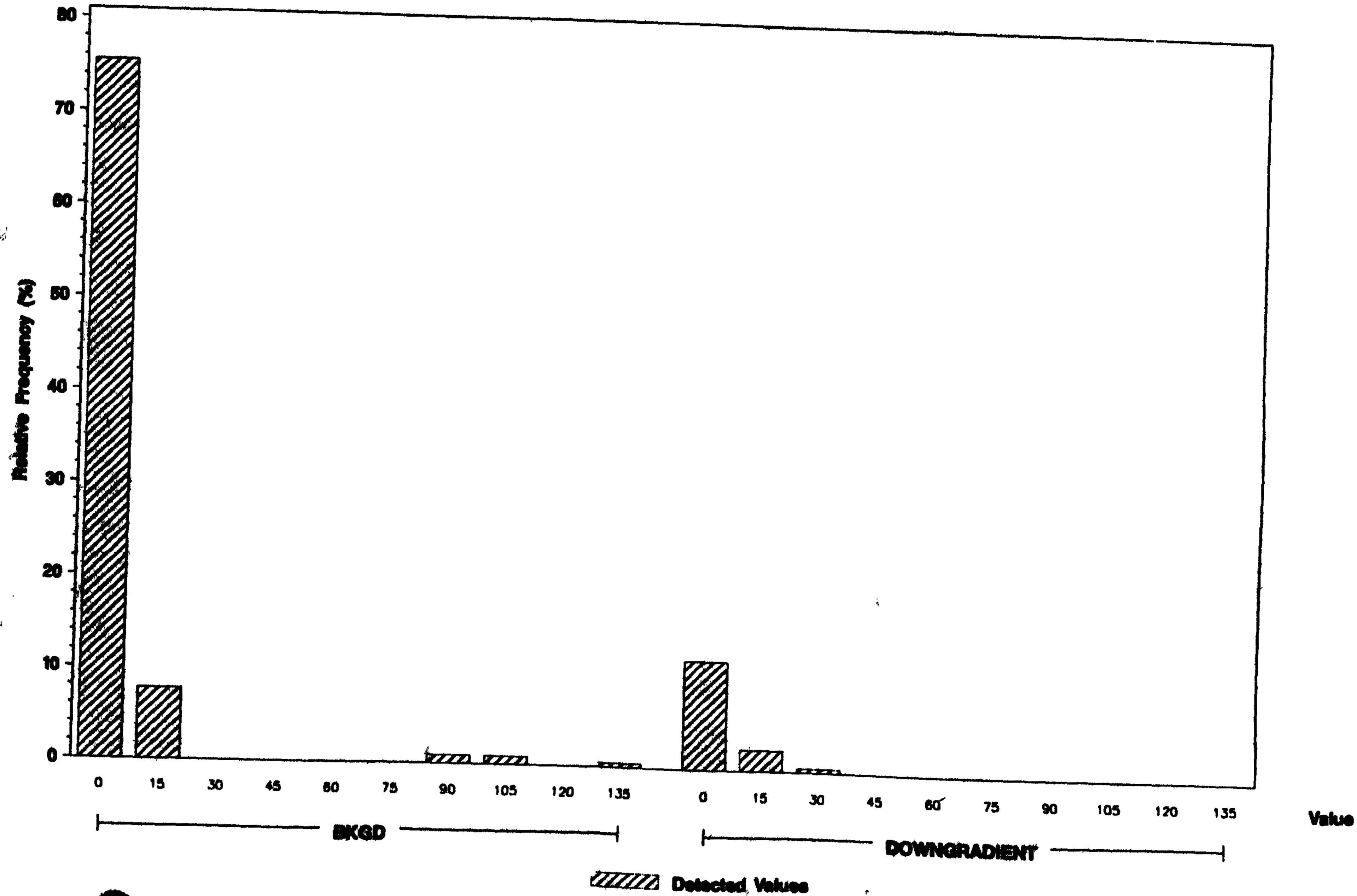
ANALYTE=URANIUM-235



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Dissolved URANIUM-238 (pCi/L) in Groundwater

ANALYTE=URANIUM-238



Groundwater

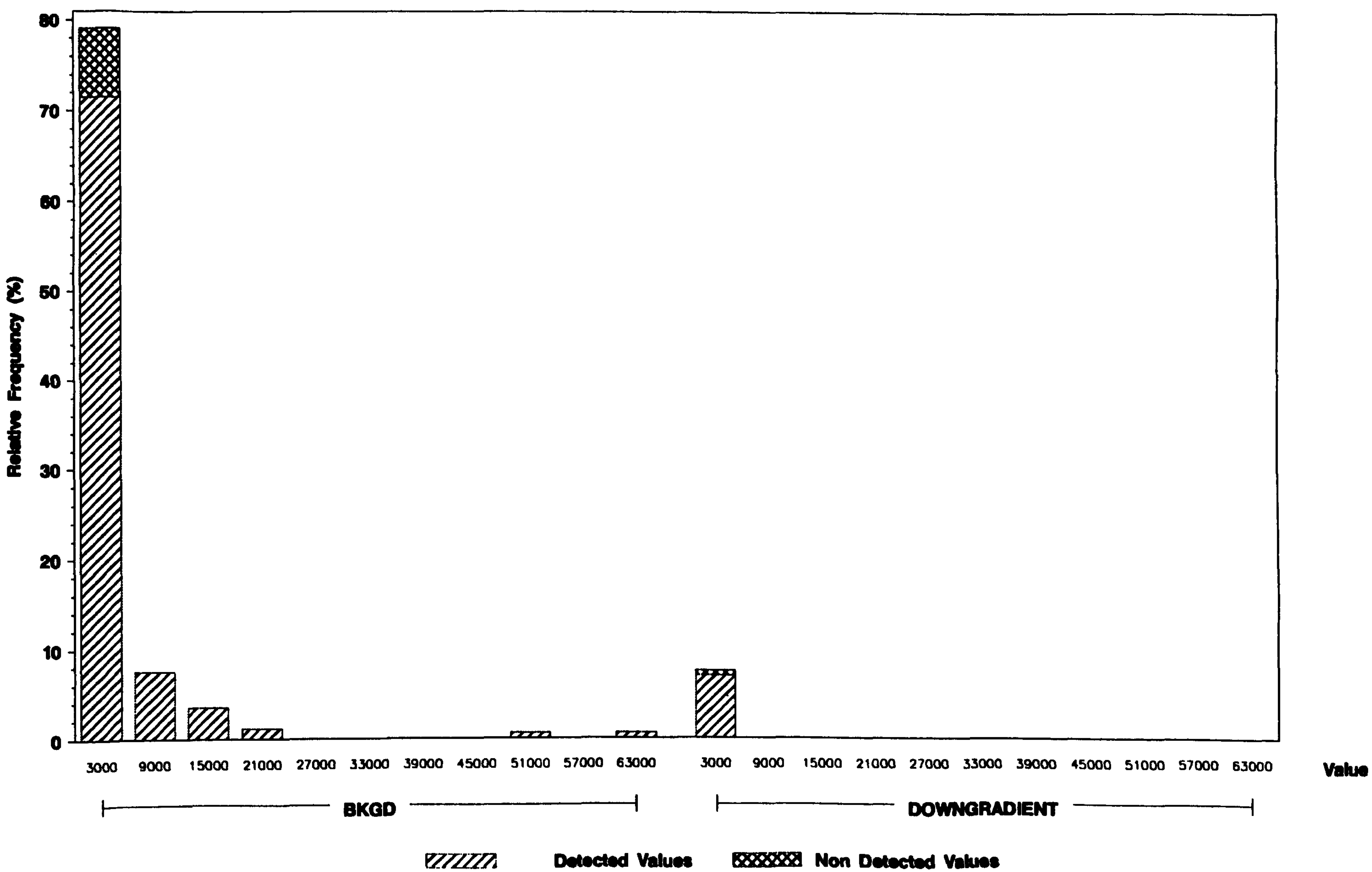
(Total)

Background vs OU 7 Downgradient UHSU

Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total ALUMINUM (ug/L) in Groundwater

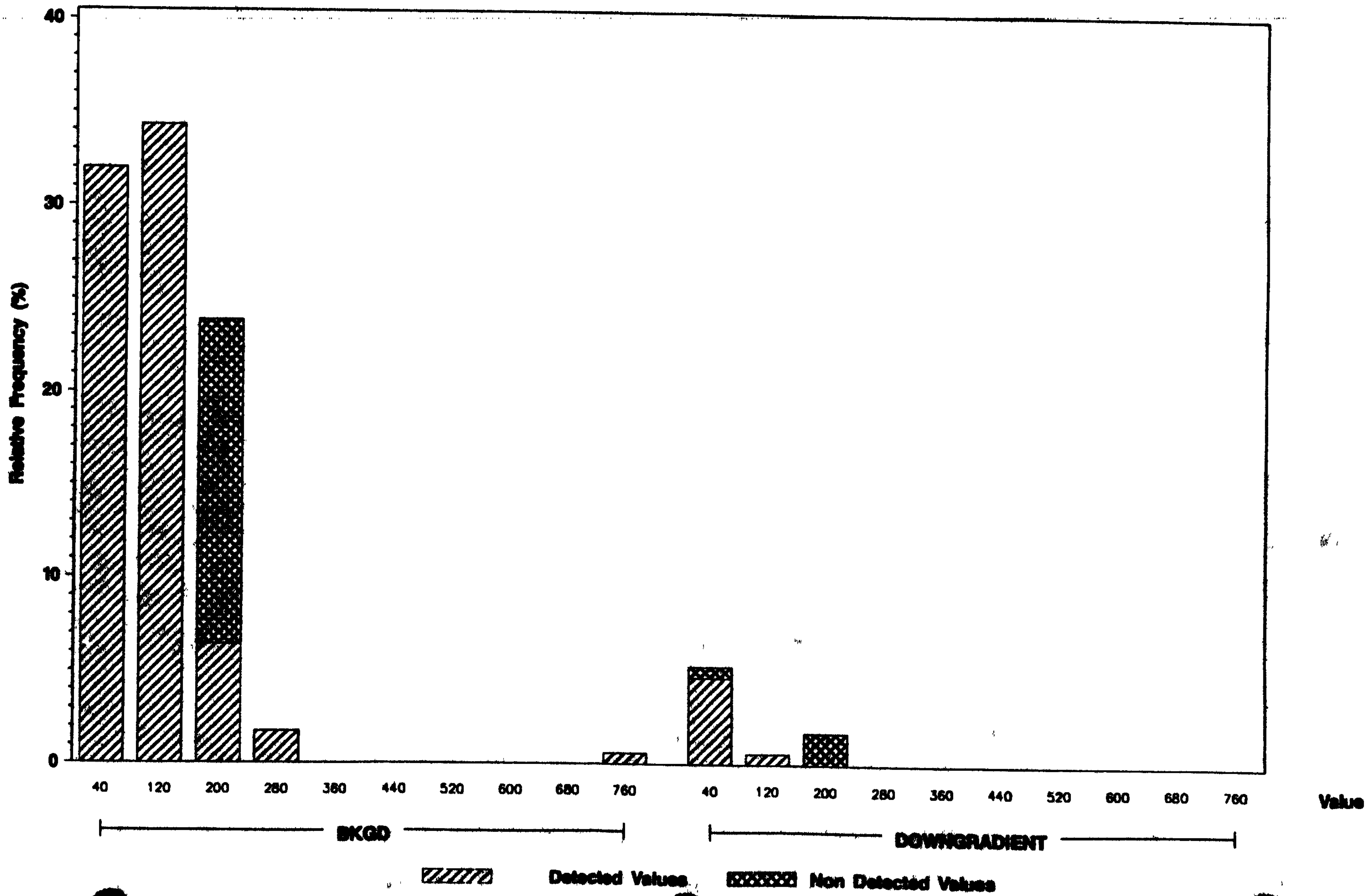
ANALYTE = ALUMINUM



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total BARIUM (ug/L) In Groundwater

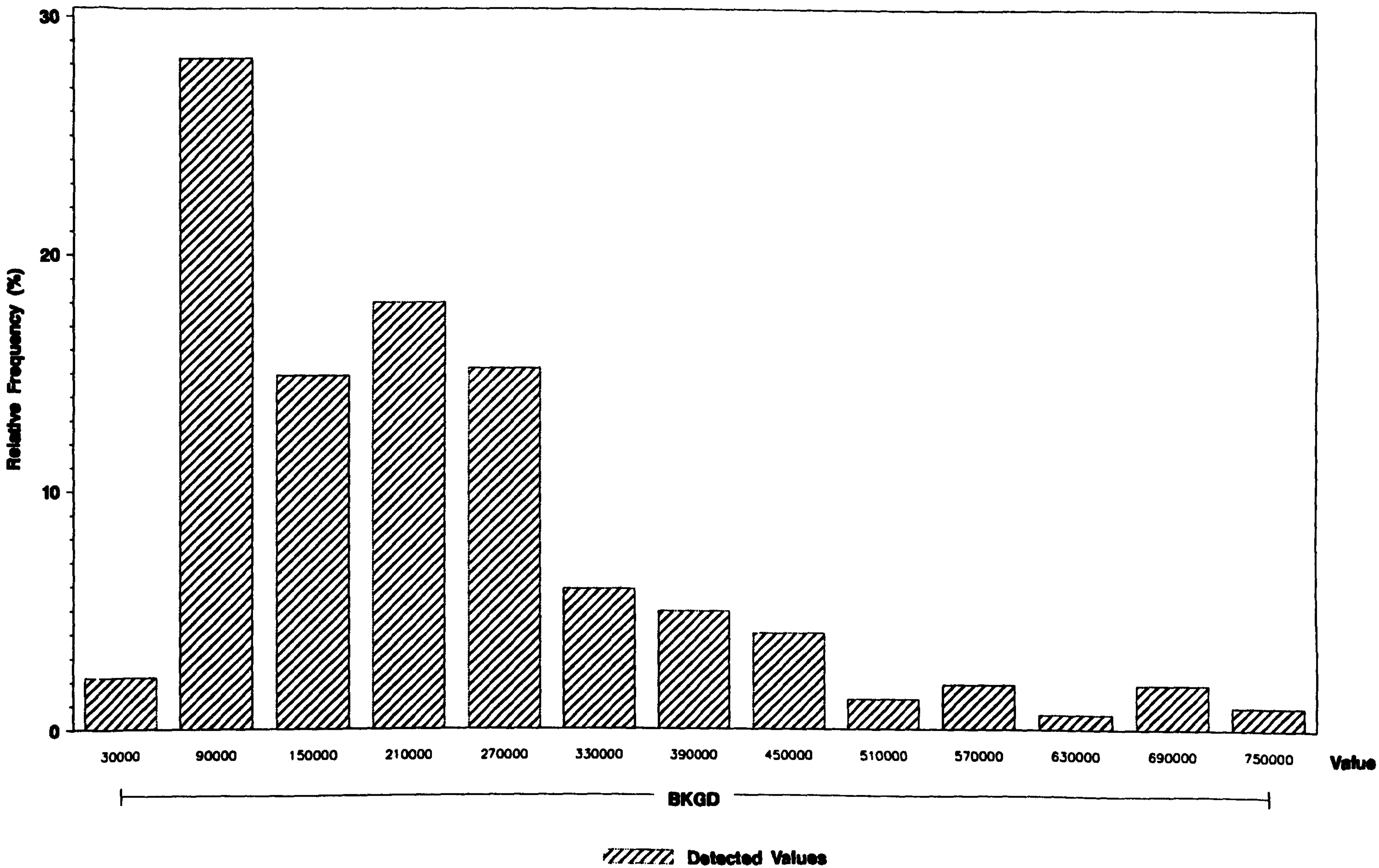
ANALYTE = BARIUM



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total BICARBONATE (ug/L) in Groundwater

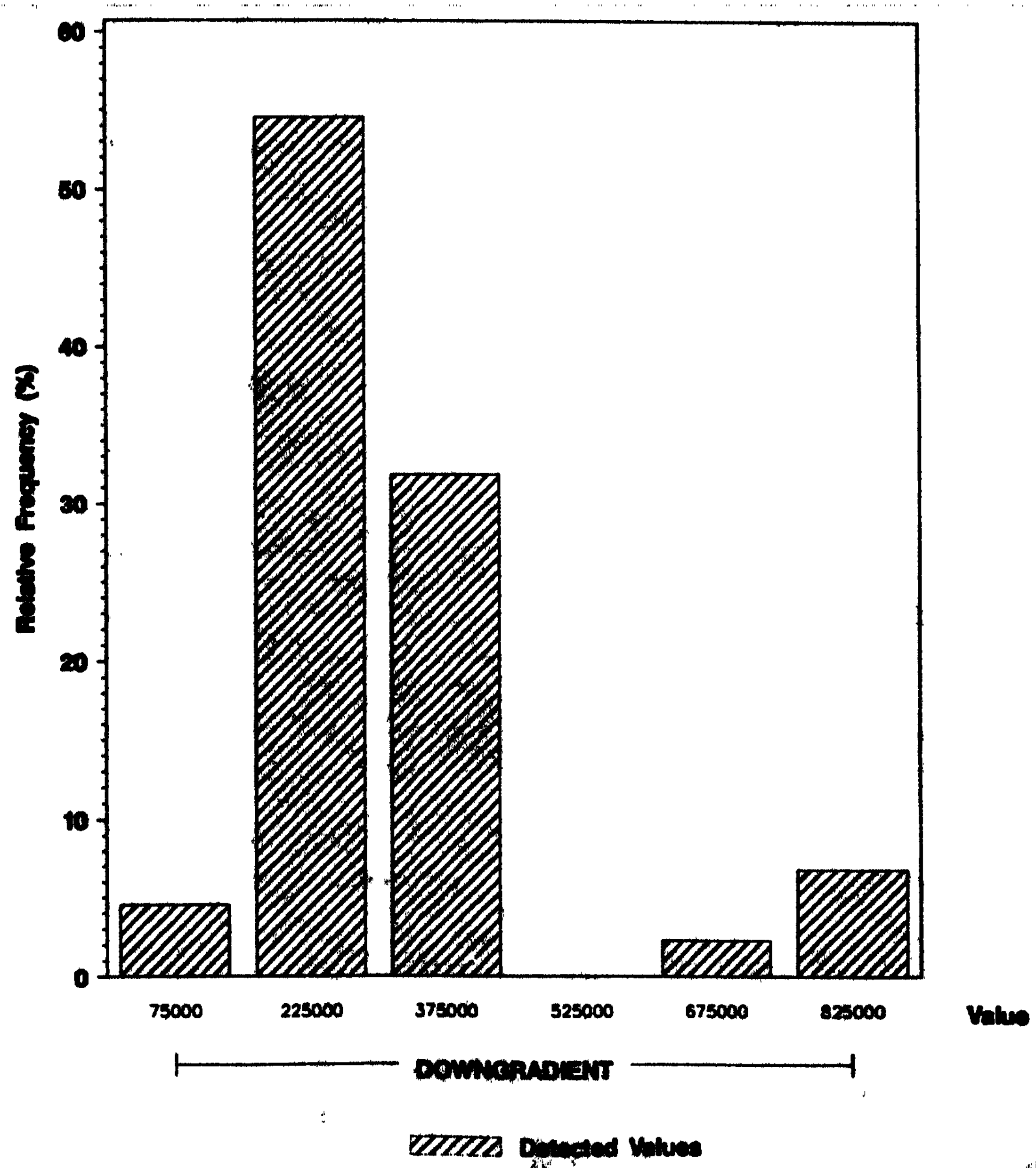
ANALYTE=BICARBONATE



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total BICARBONATE AS CACO3 (ug/L) in Groundwater

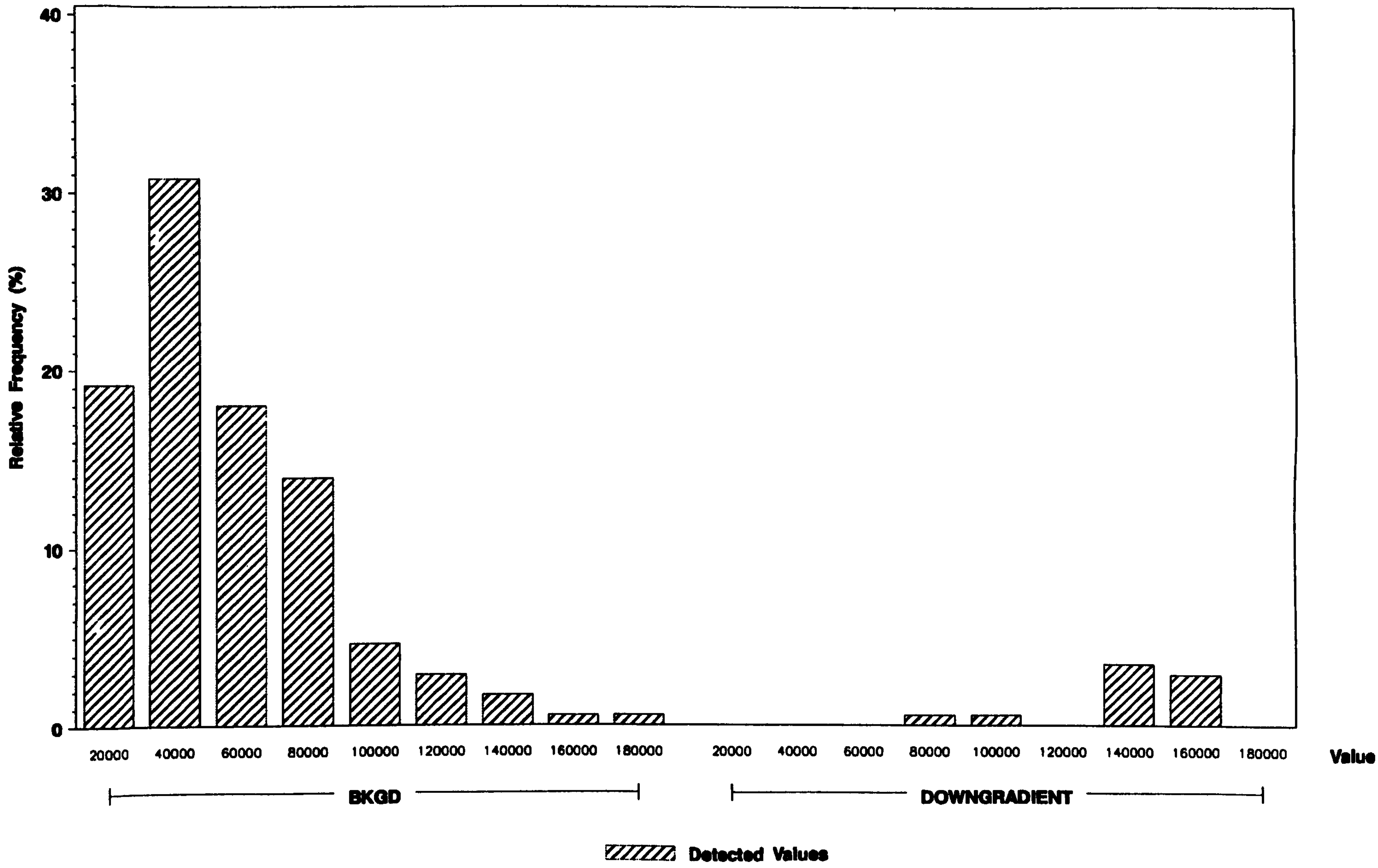
ANALYTE=BICARBONATE AS CACO3



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total CALCIUM (ug/L) in Groundwater

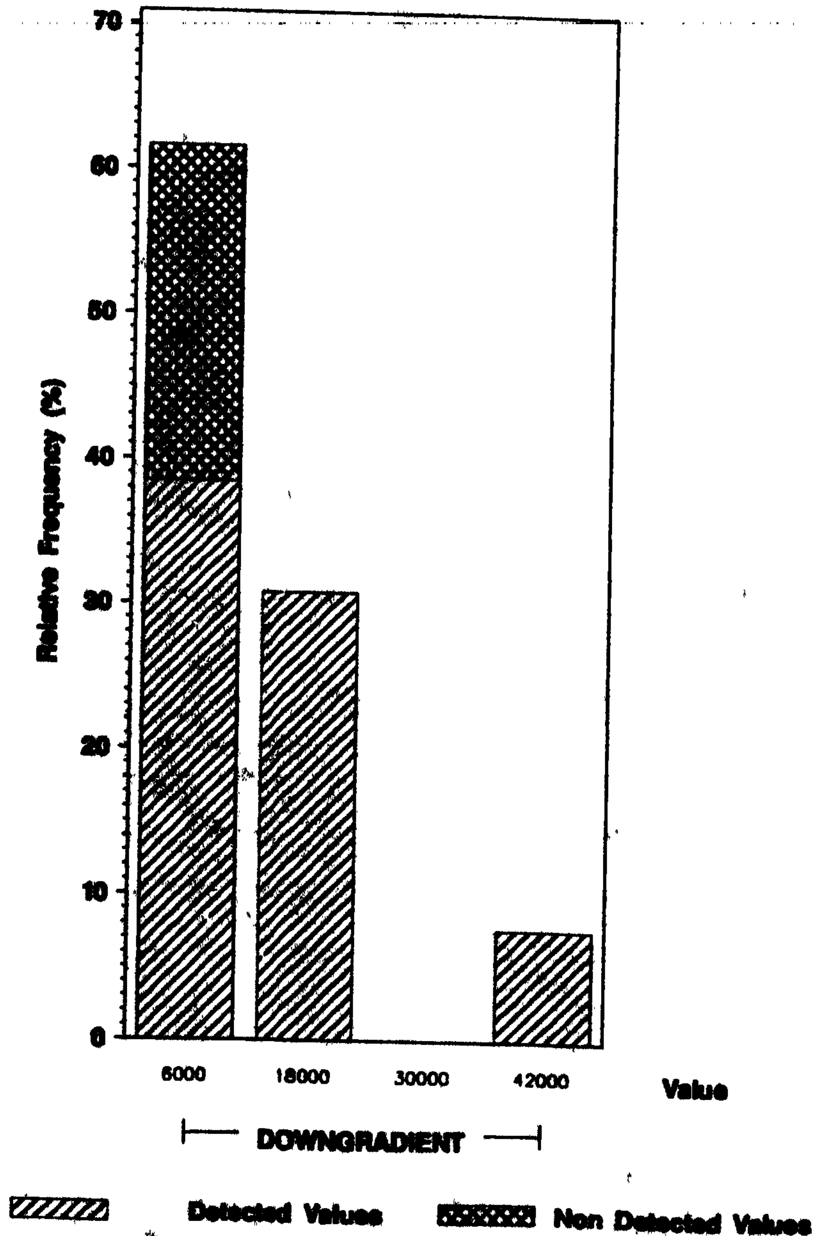
ANALYTE=CALCIUM



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total CHEMICAL OXYGEN DEMAND (ug/L) in Groundwater

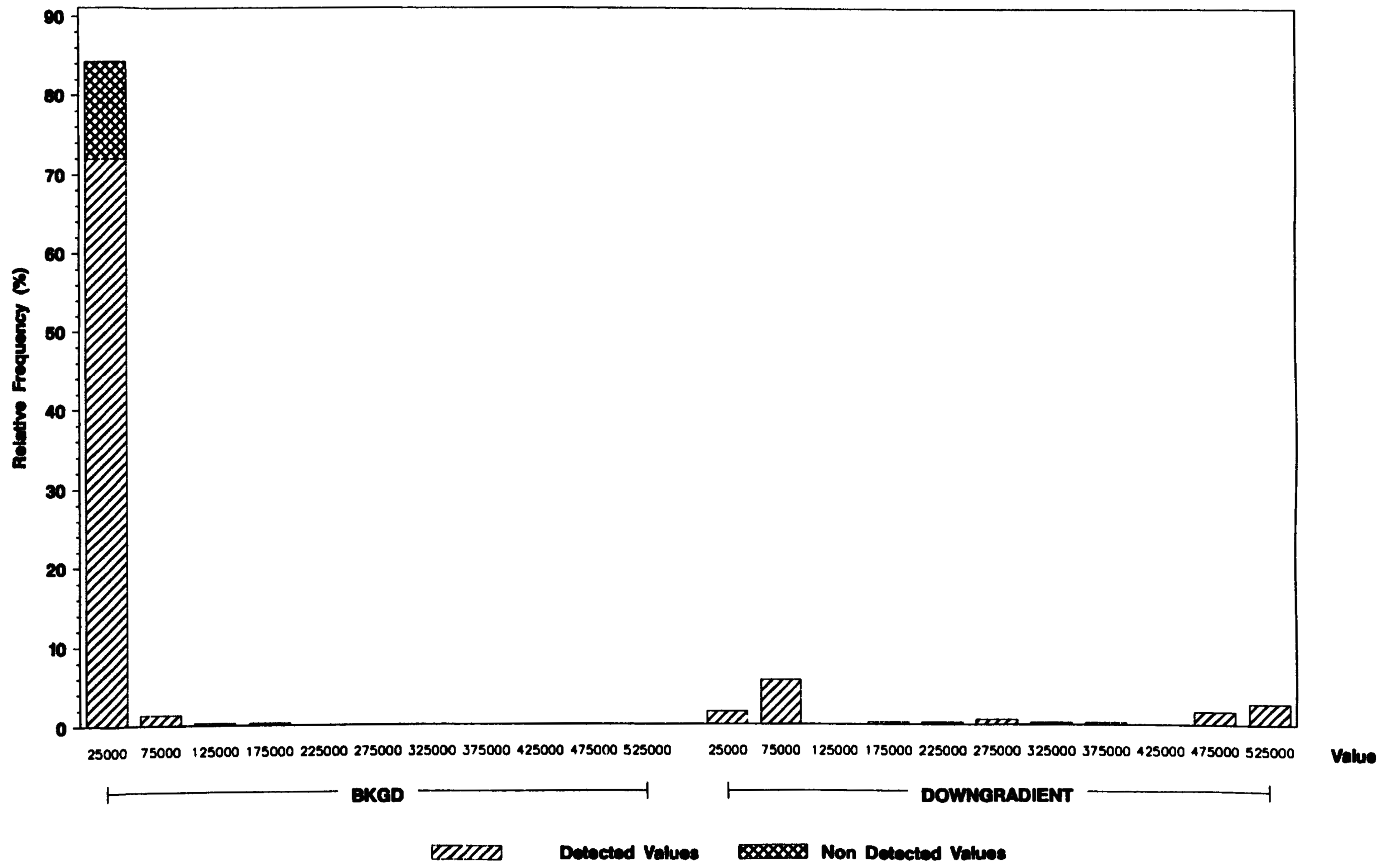
ANALYTE=CHEMICAL OXYGEN DEMAND



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

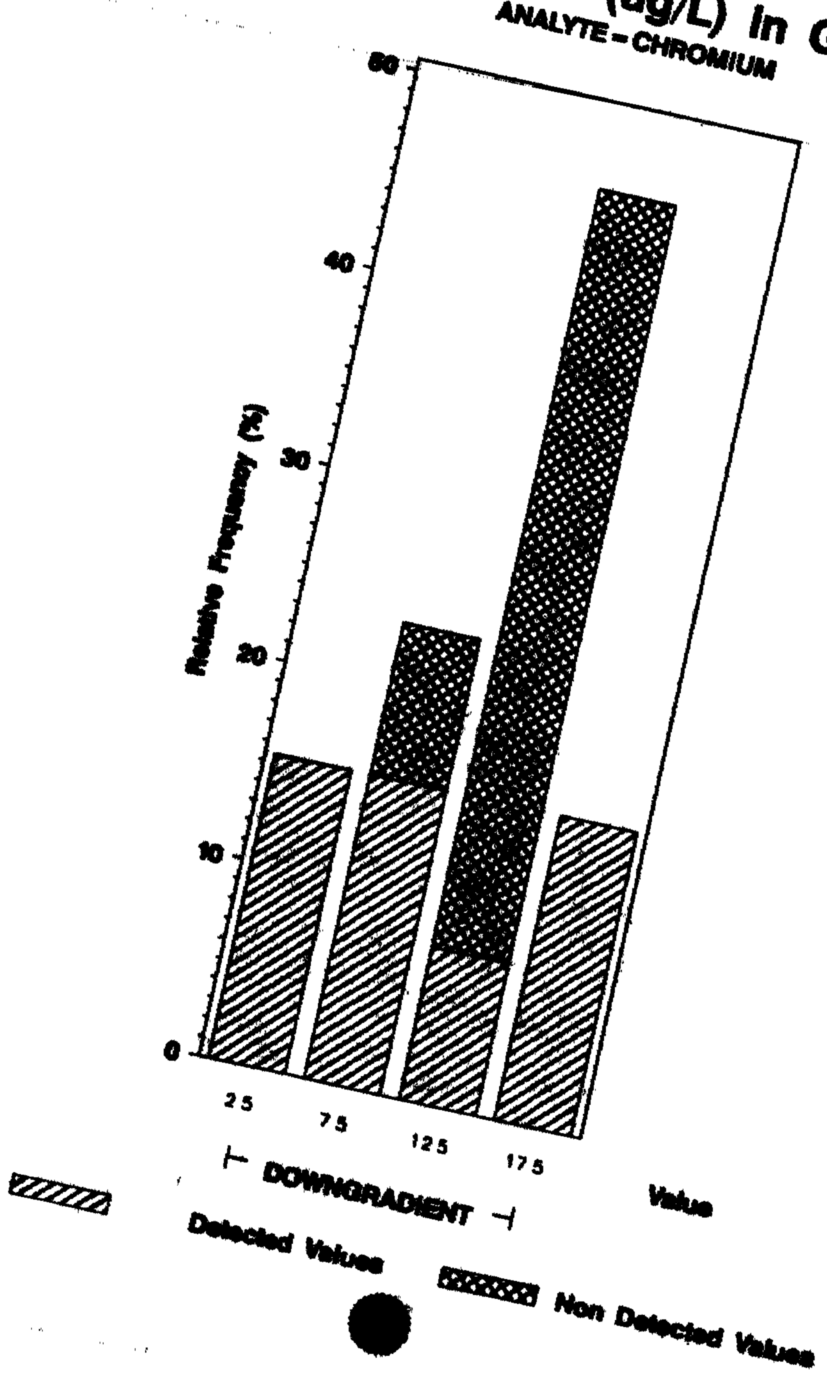
Total CHLORIDE (ug/L) in Groundwater

ANALYTE=CHLORIDE



...and vs OU7 Downgradient Groundwater (UHSU) Frequency Histog...

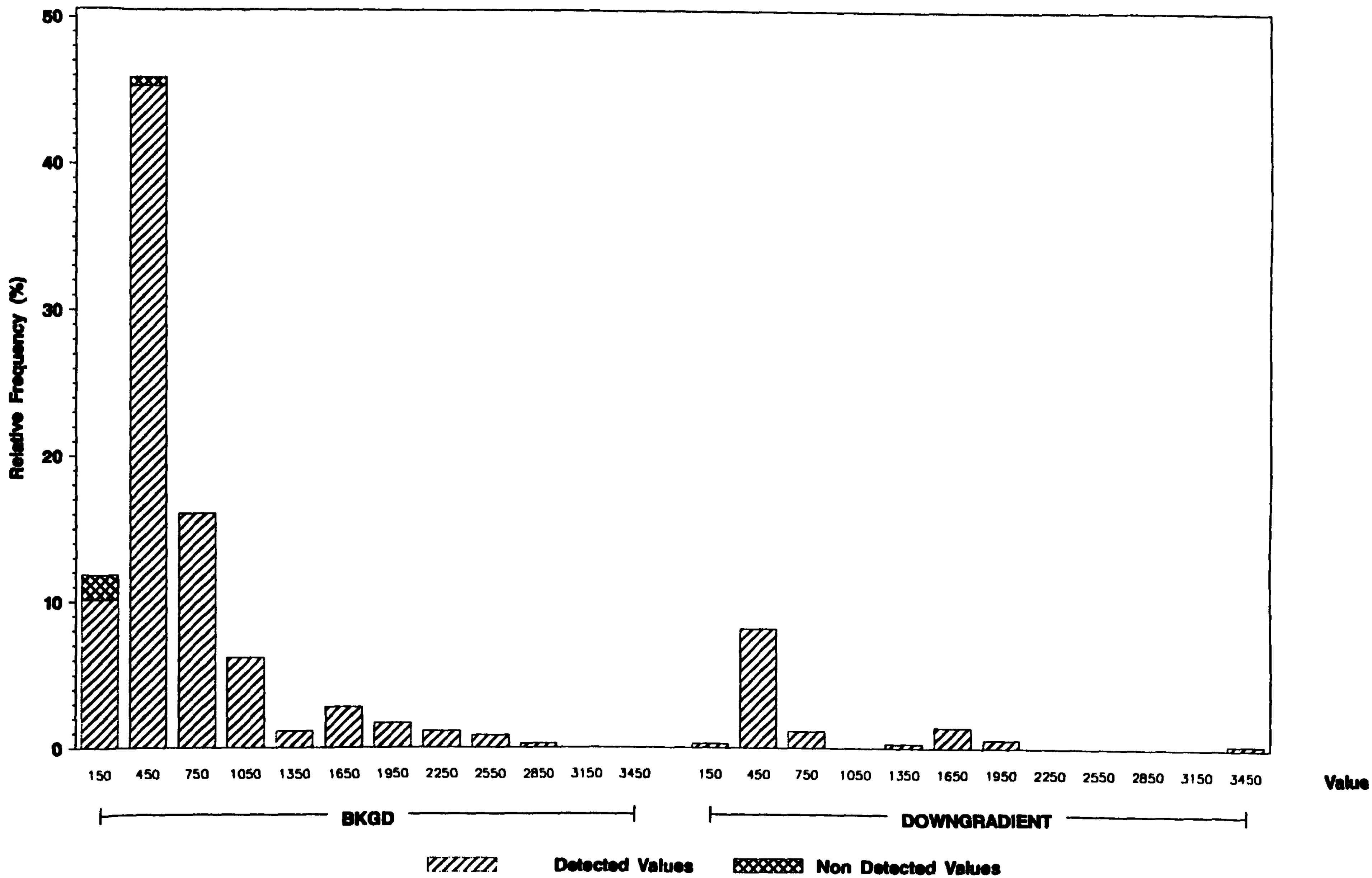
Total CHROMIUM (ug/L) in Groundwater



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total FLUORIDE (ug/L) in Groundwater

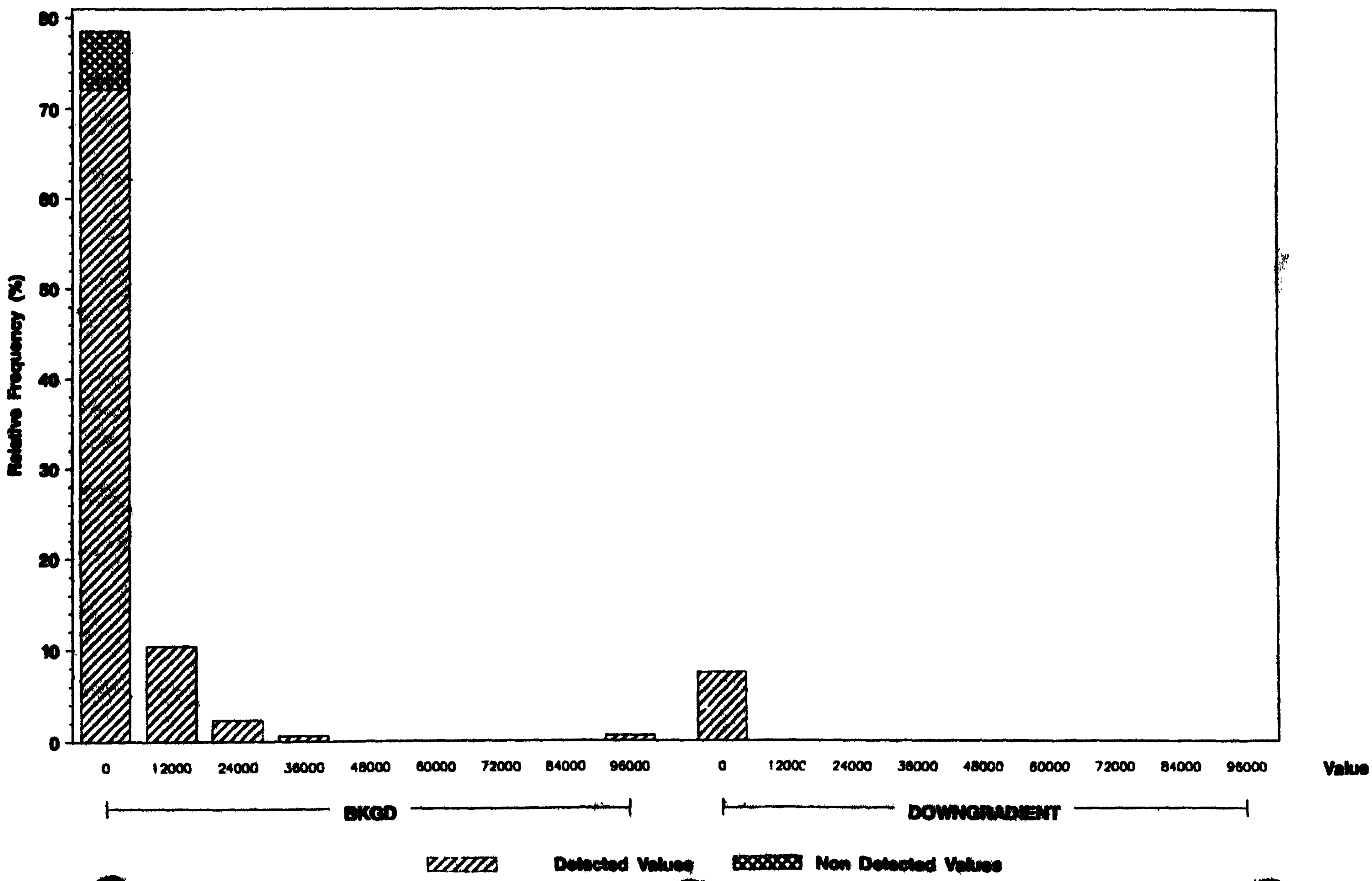
ANALYTE=FLUORIDE



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total IRON (ug/L) in Groundwater

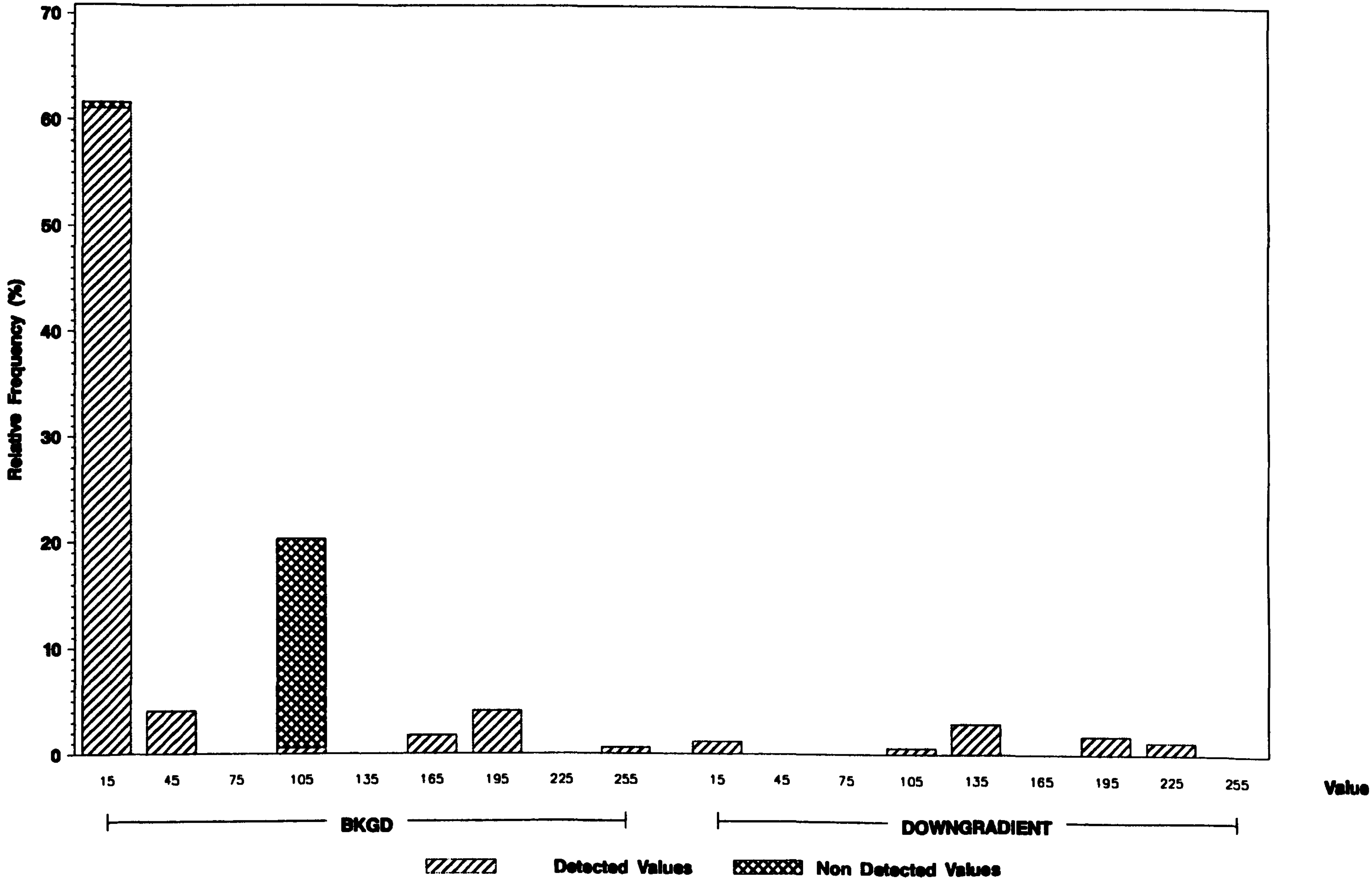
ANALYTE=IRON



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total LITHIUM (ug/L) in Groundwater

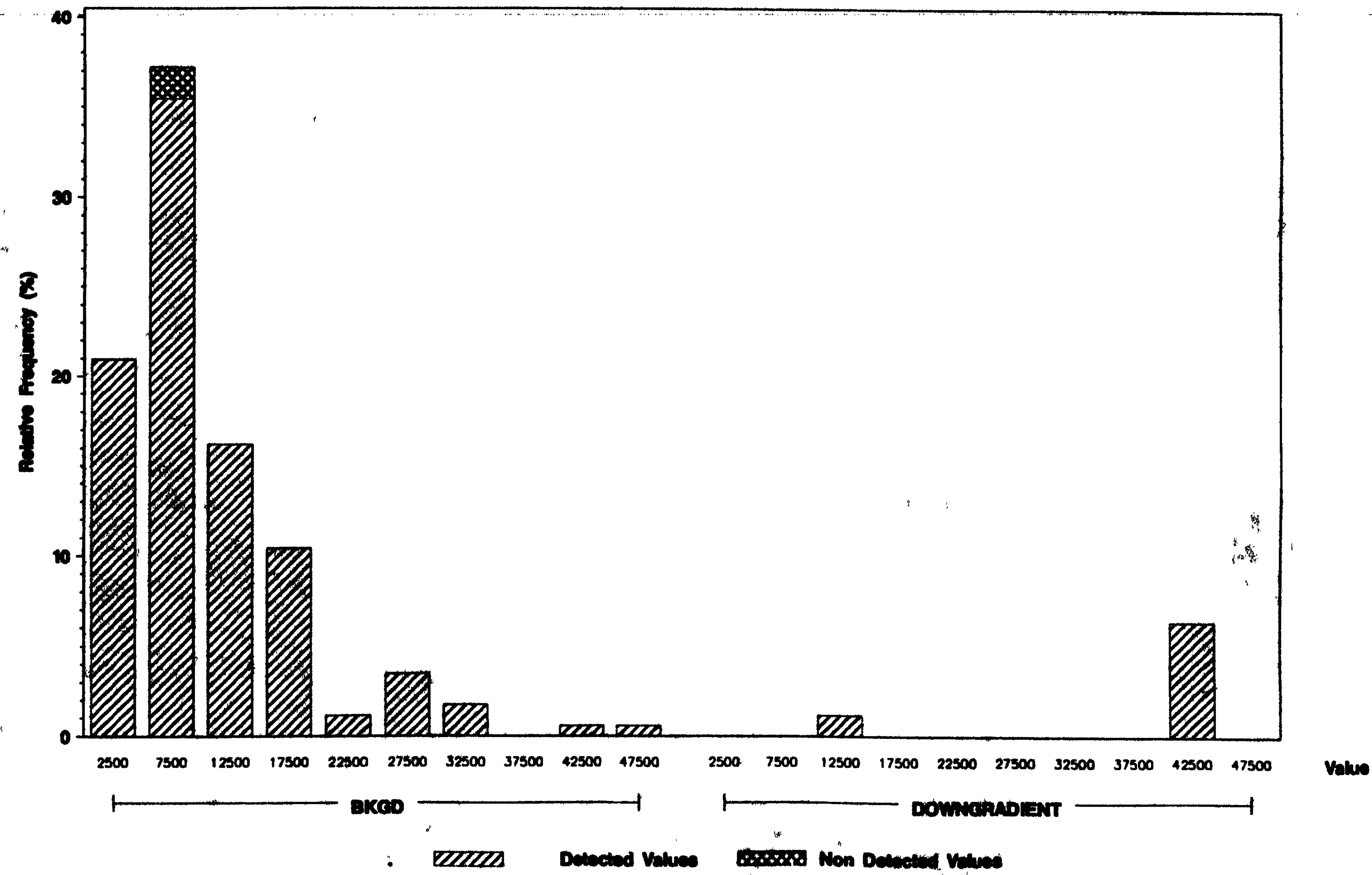
ANALYTE = LITHIUM



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total MAGNESIUM (ug/L) in Groundwater

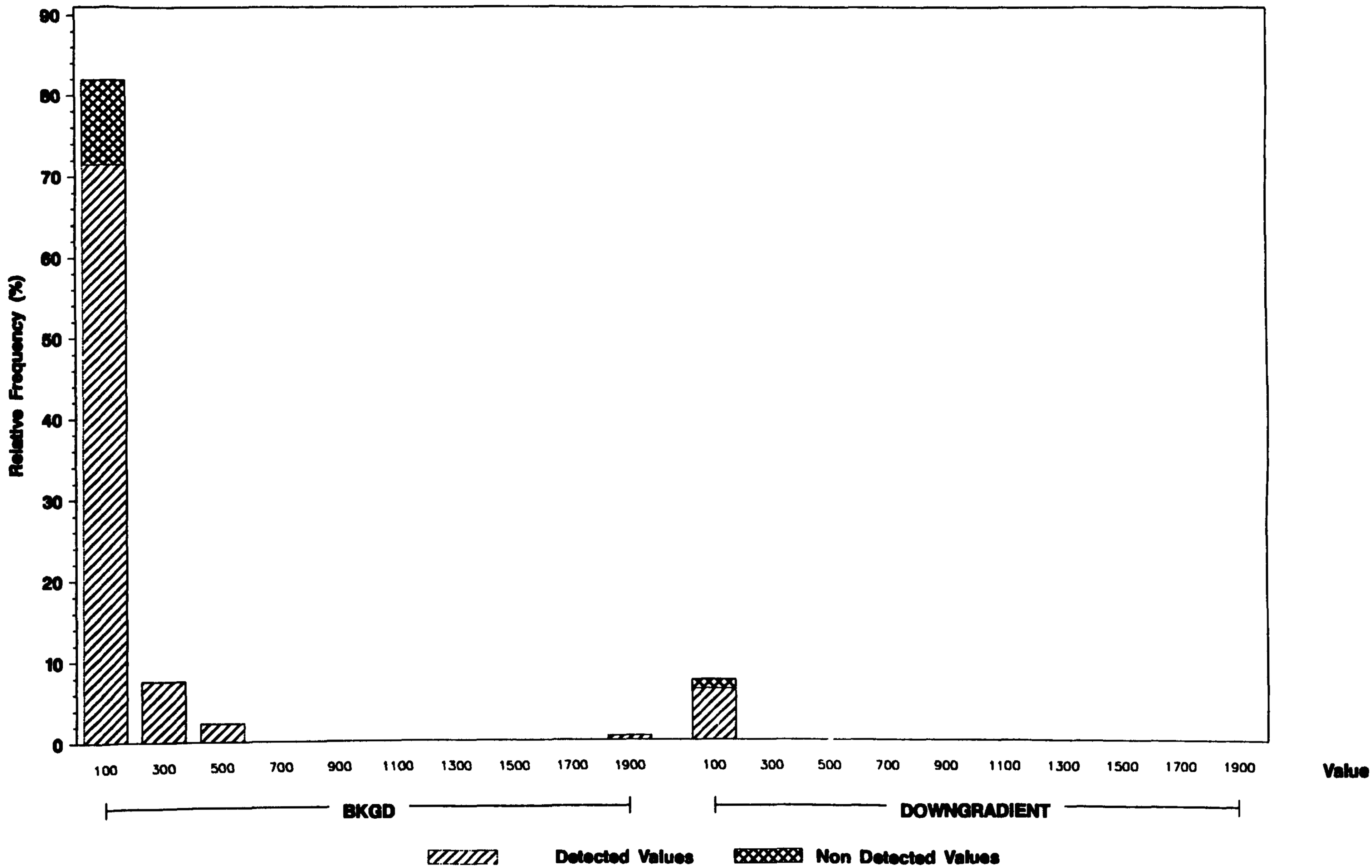
ANALYTE = MAGNESIUM



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total MANGANESE (ug/L) in Groundwater

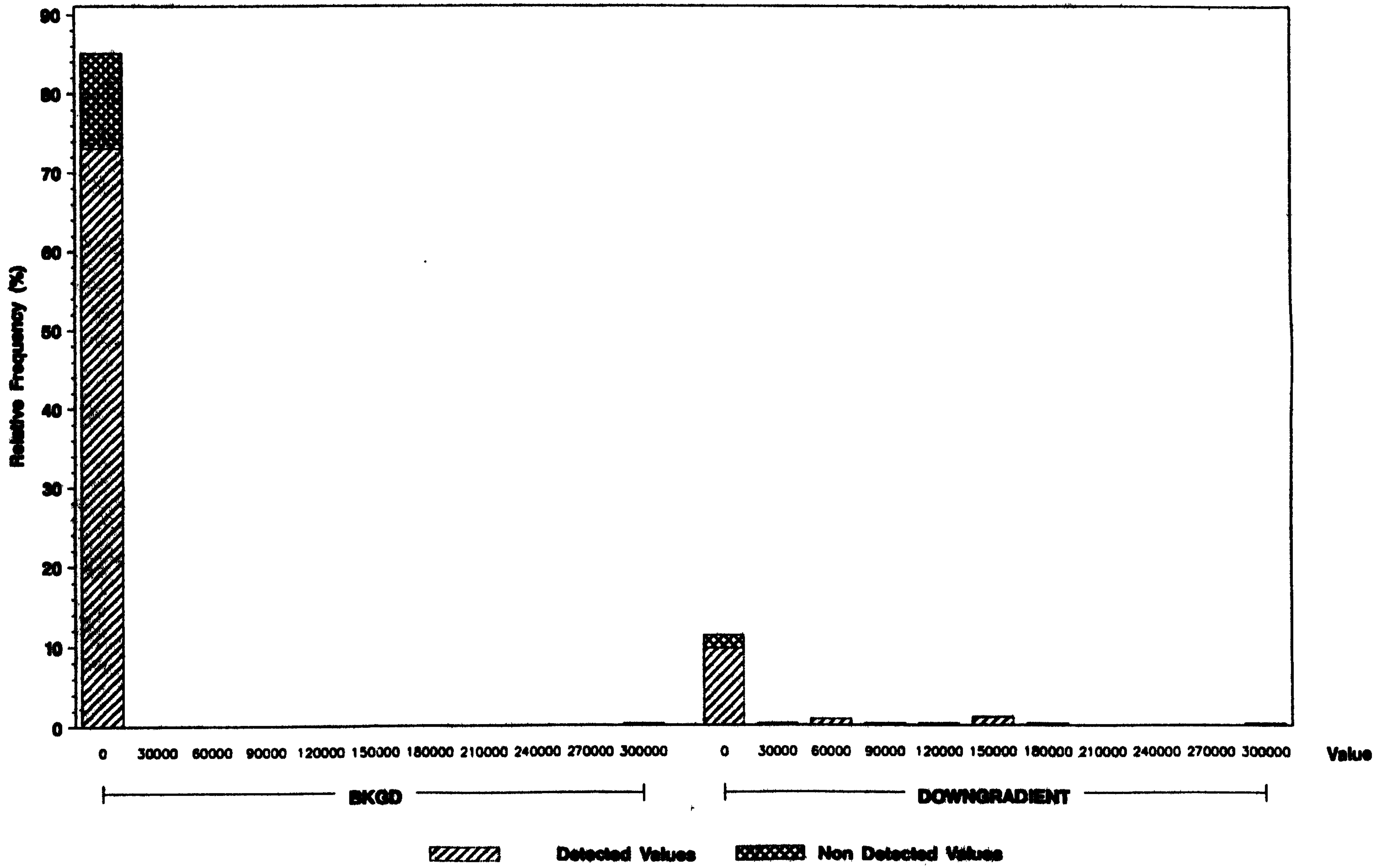
ANALYTE=MANGANESE



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total NITRATE/NITRITE (ug/L) in Groundwater

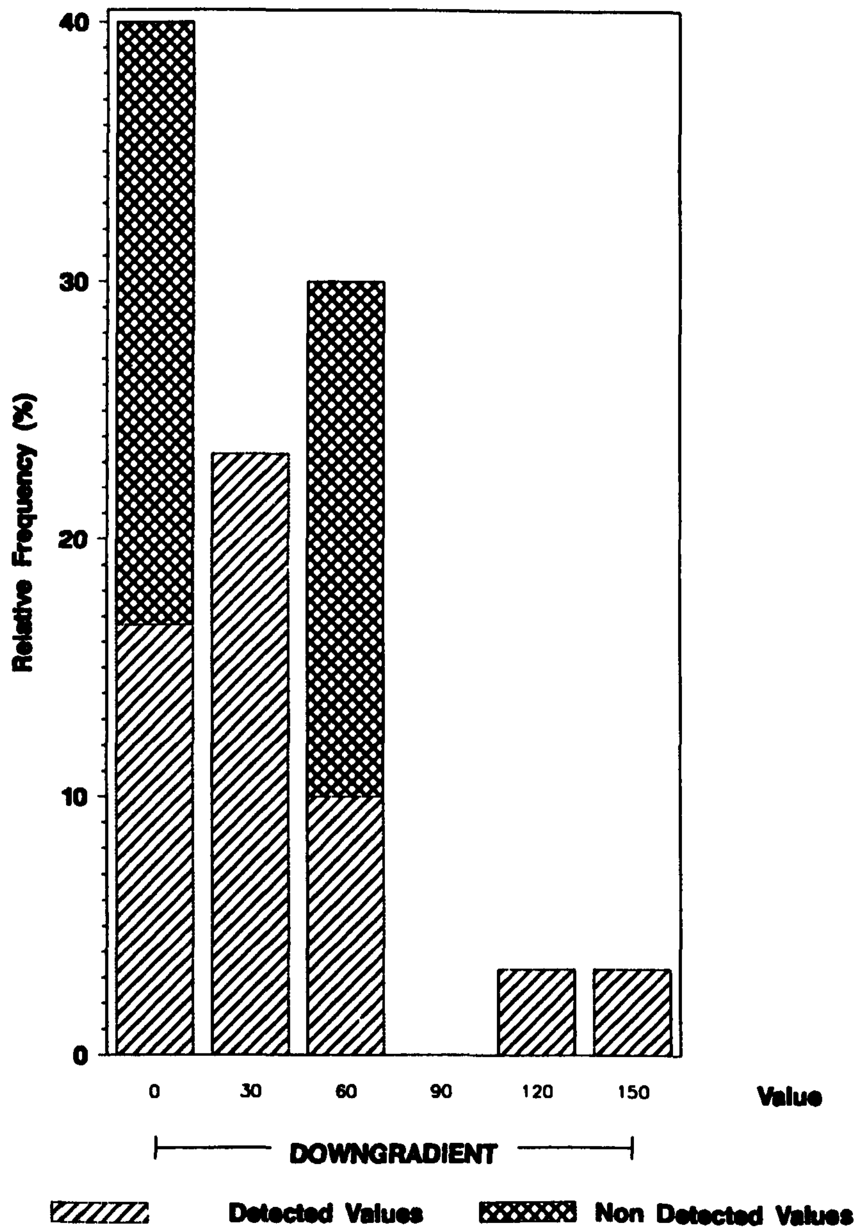
ANALYTE=NITRATE/NITRITE



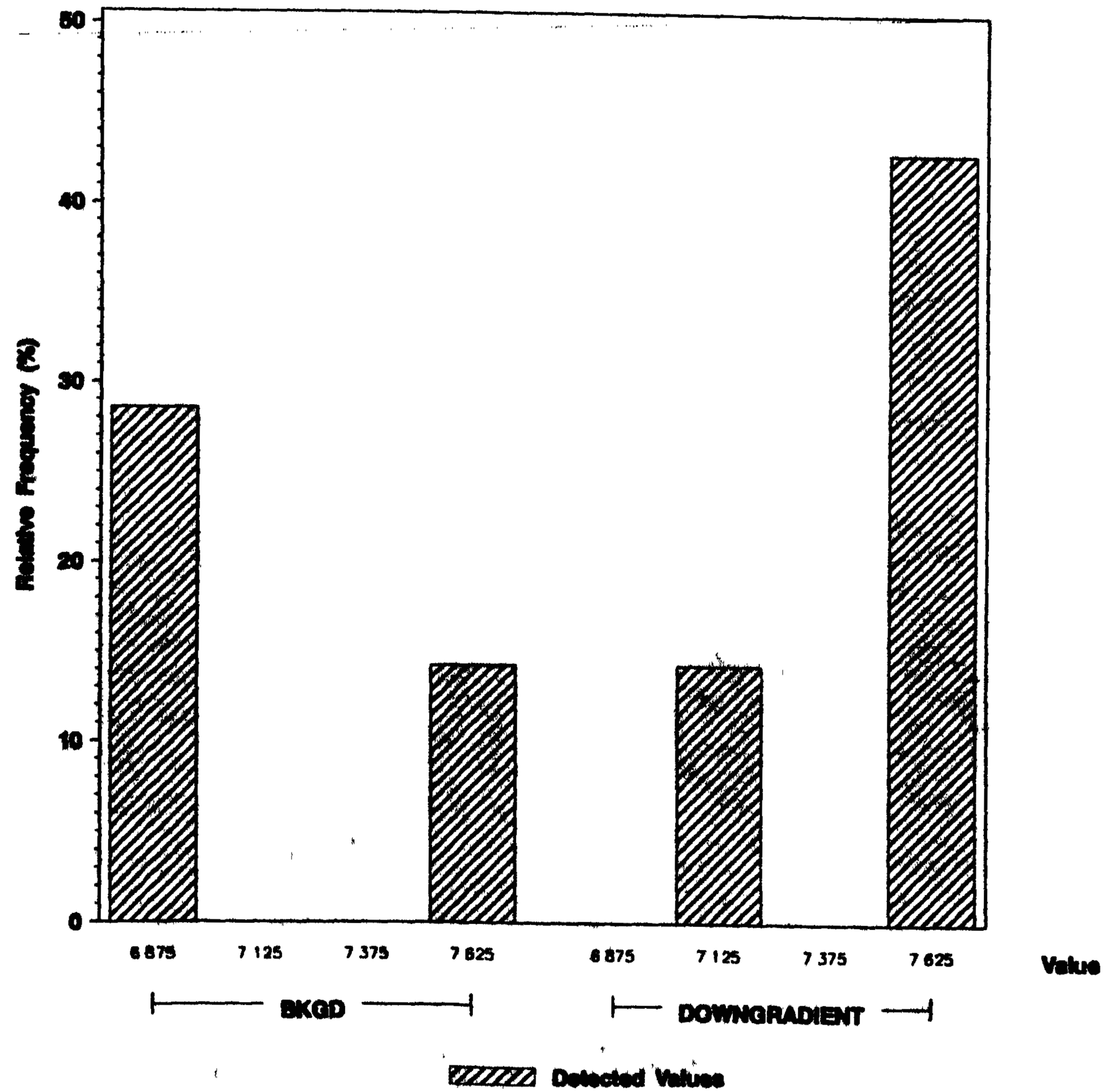
Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total ORTHOPHOSPHATE (ug/L) in Groundwater

ANALYTE = ORTHOPHOSPHATE



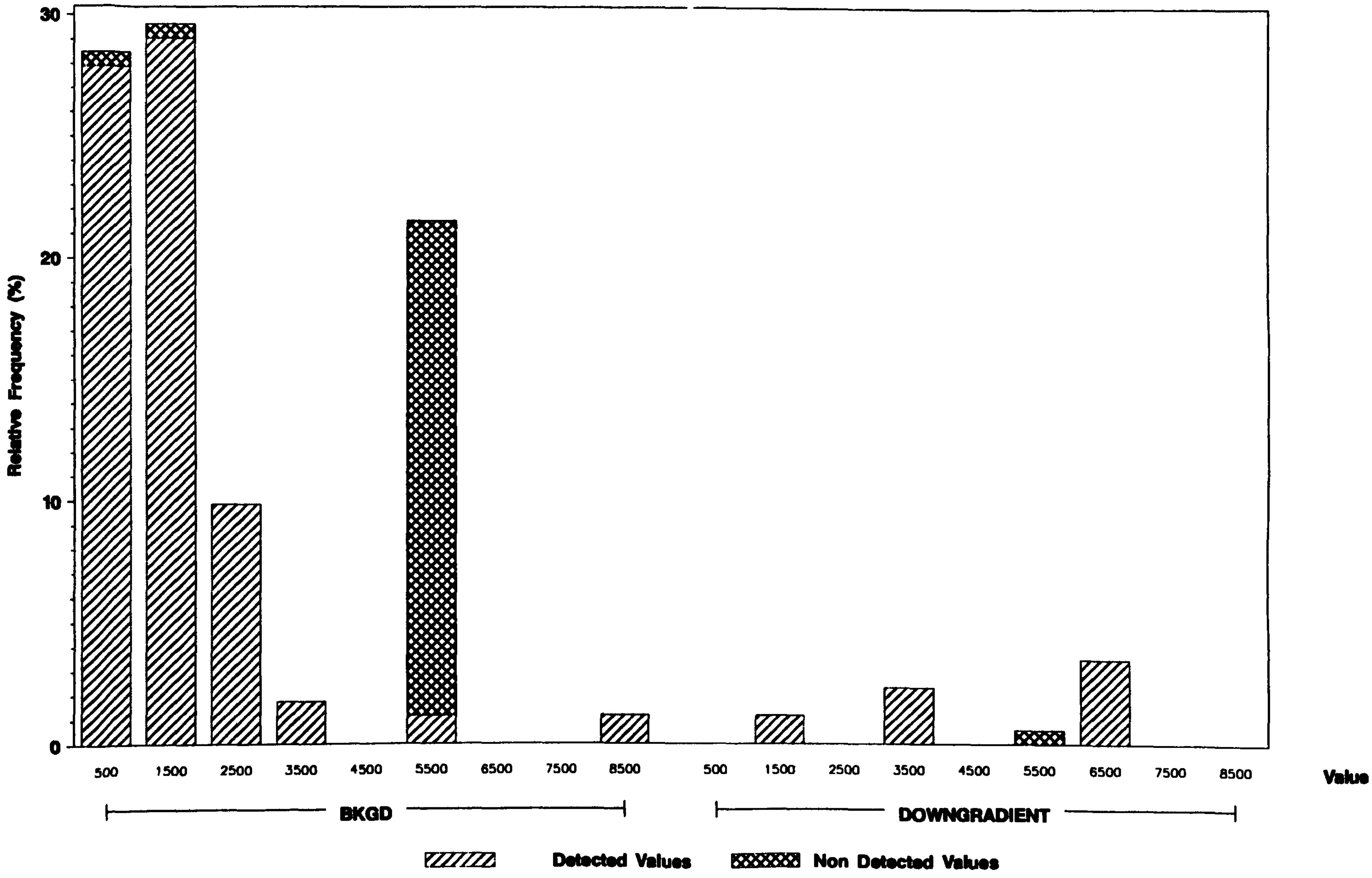
Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram
pH (Standard Units) in Groundwater
ANALYTE=pH



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total POTASSIUM (ug/L) in Groundwater

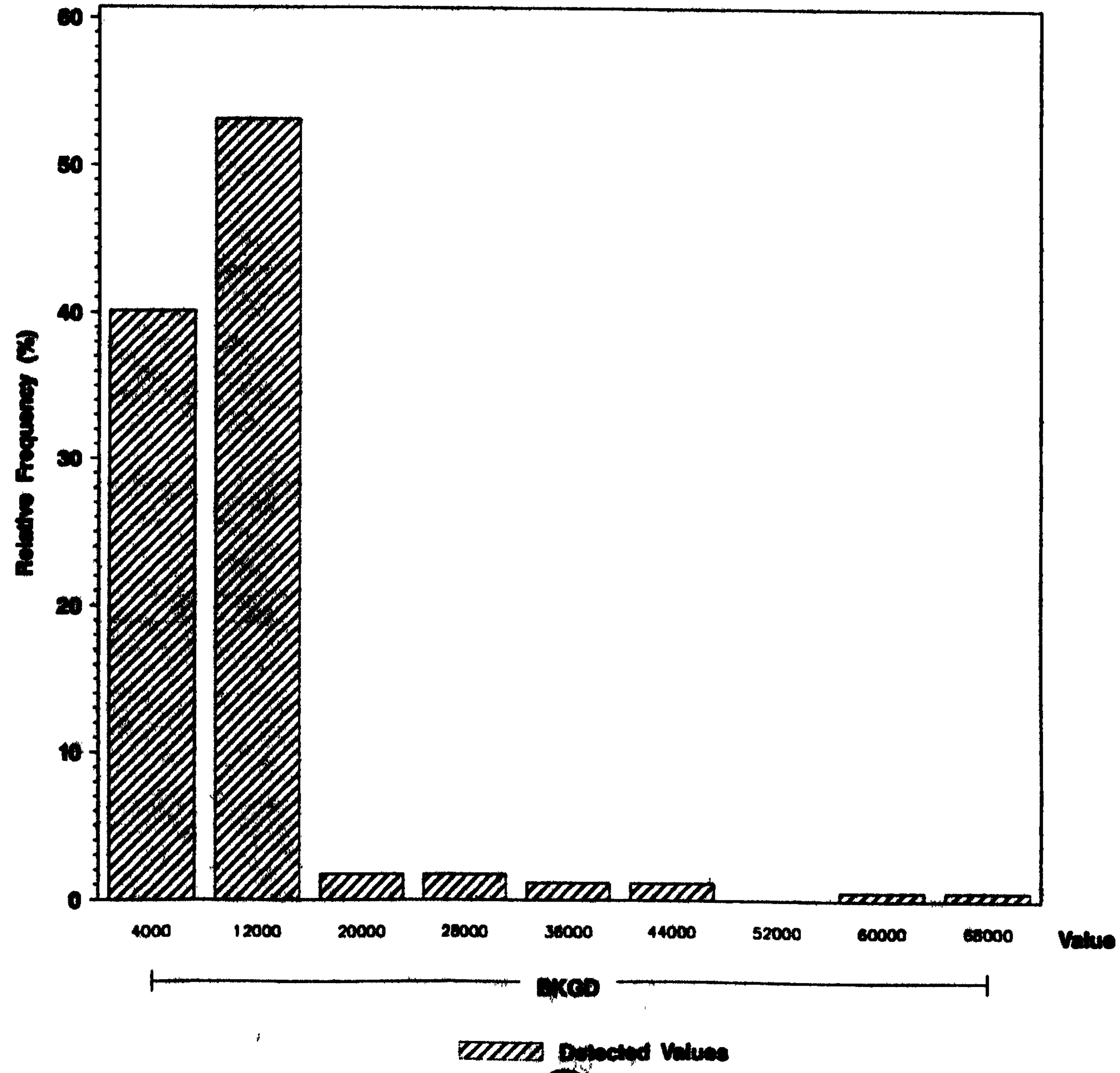
ANALYTE = POTASSIUM



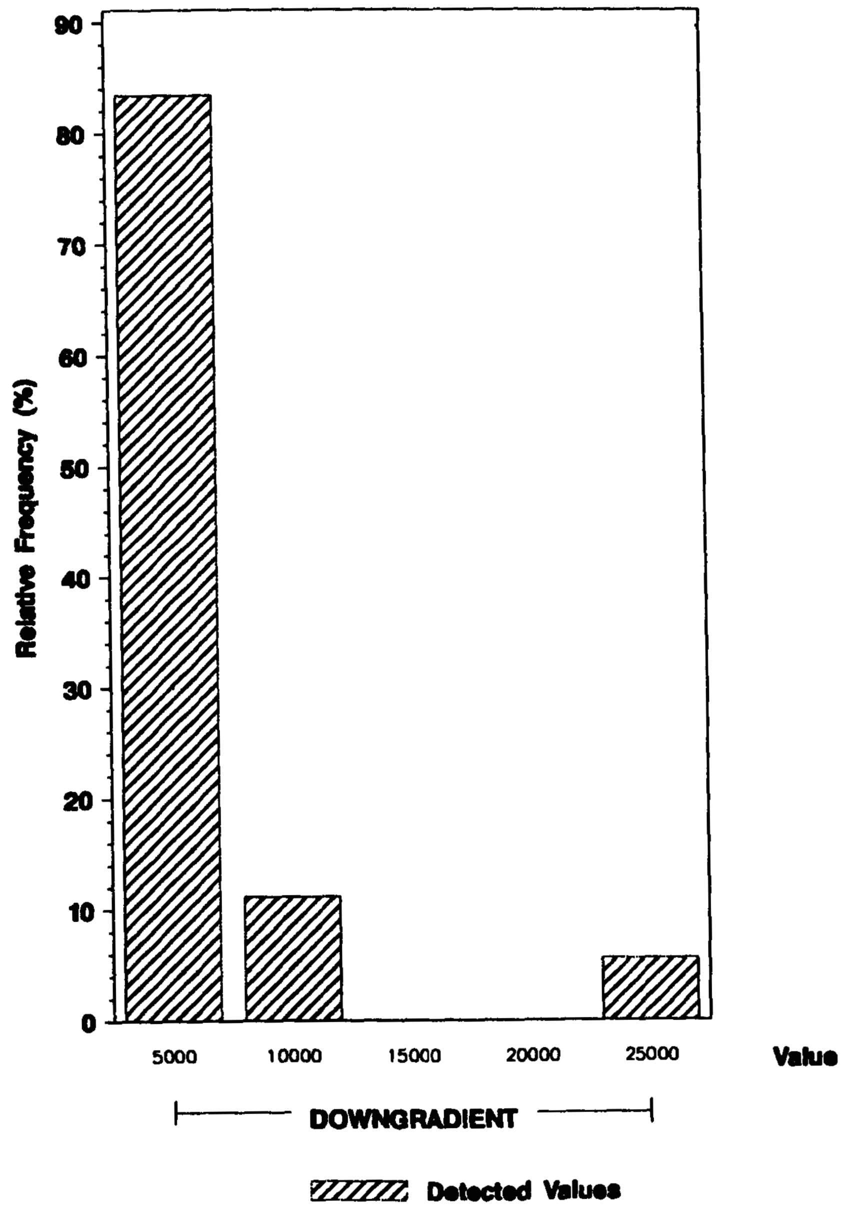
Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total SILICA (ug/L) in Groundwater

ANALYTE = SILICA



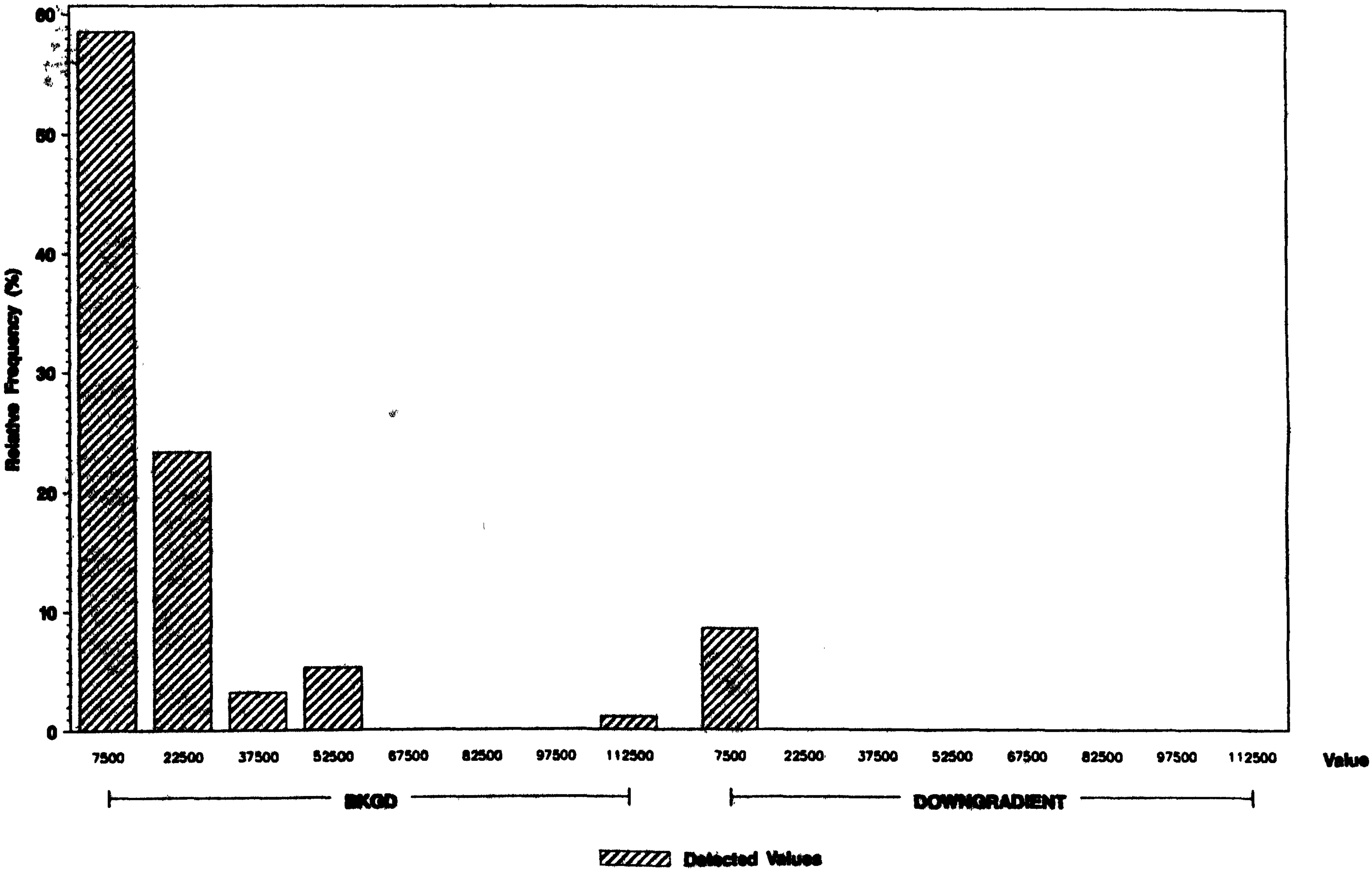
Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram
Total SILICA, DISSOLVED (ug/L) in Groundwater
ANALYTE=SILICA, DISSOLVED



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total SILICON (ug/L) In Groundwater

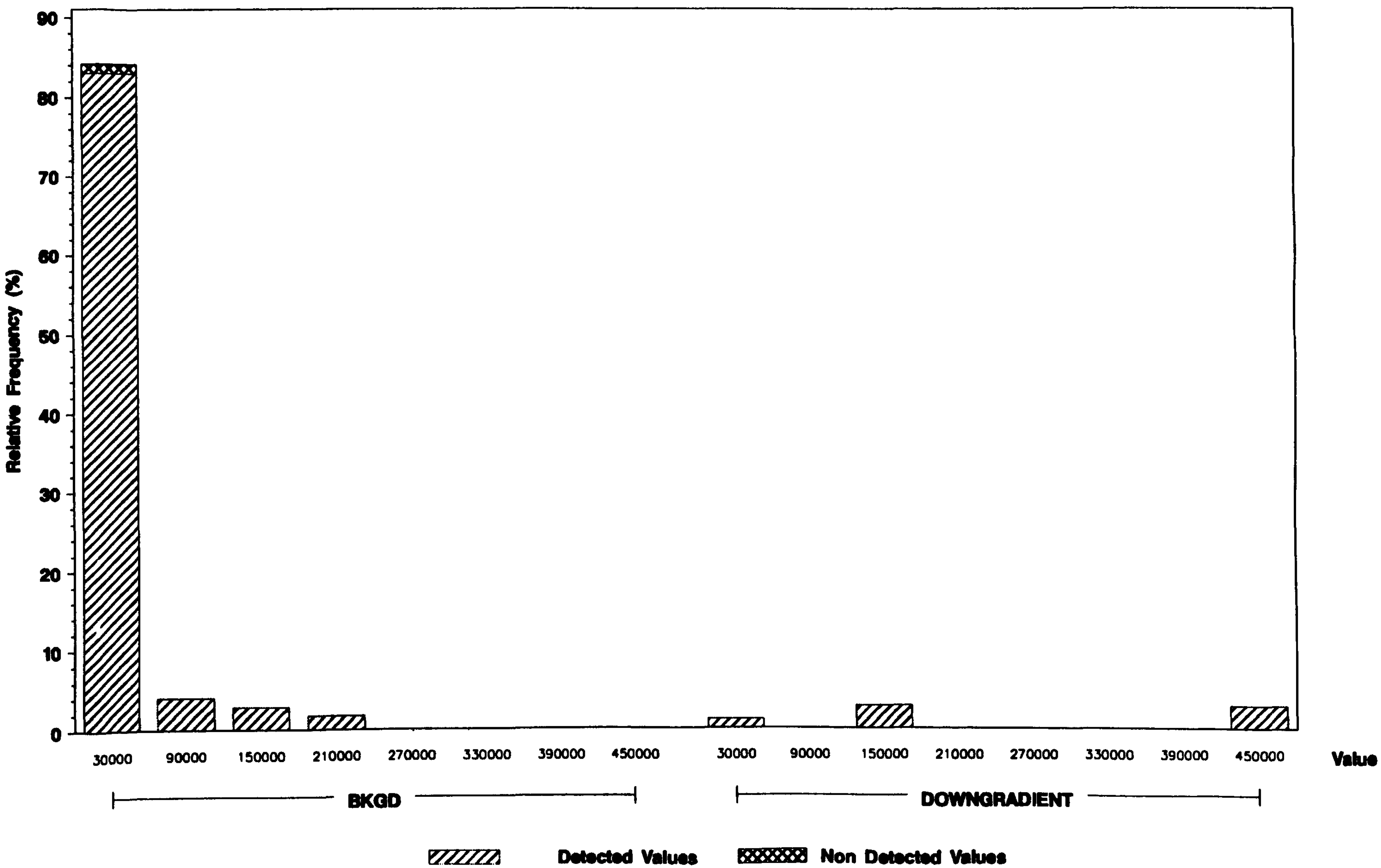
ANALYTE=SILICON



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total SODIUM (ug/L) in Groundwater

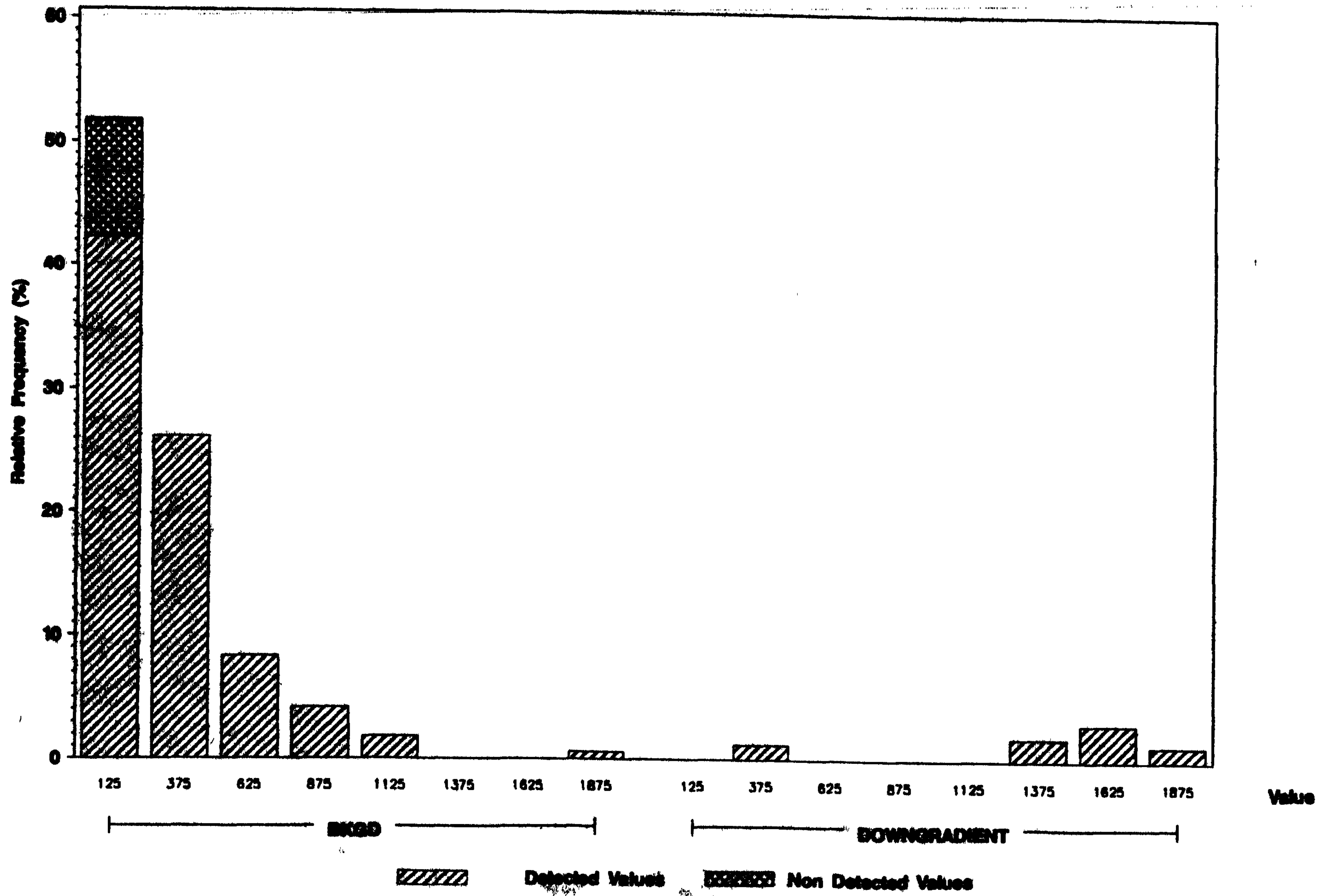
ANALYTE=SODIUM



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total STRONTIUM (ug/L) in Groundwater

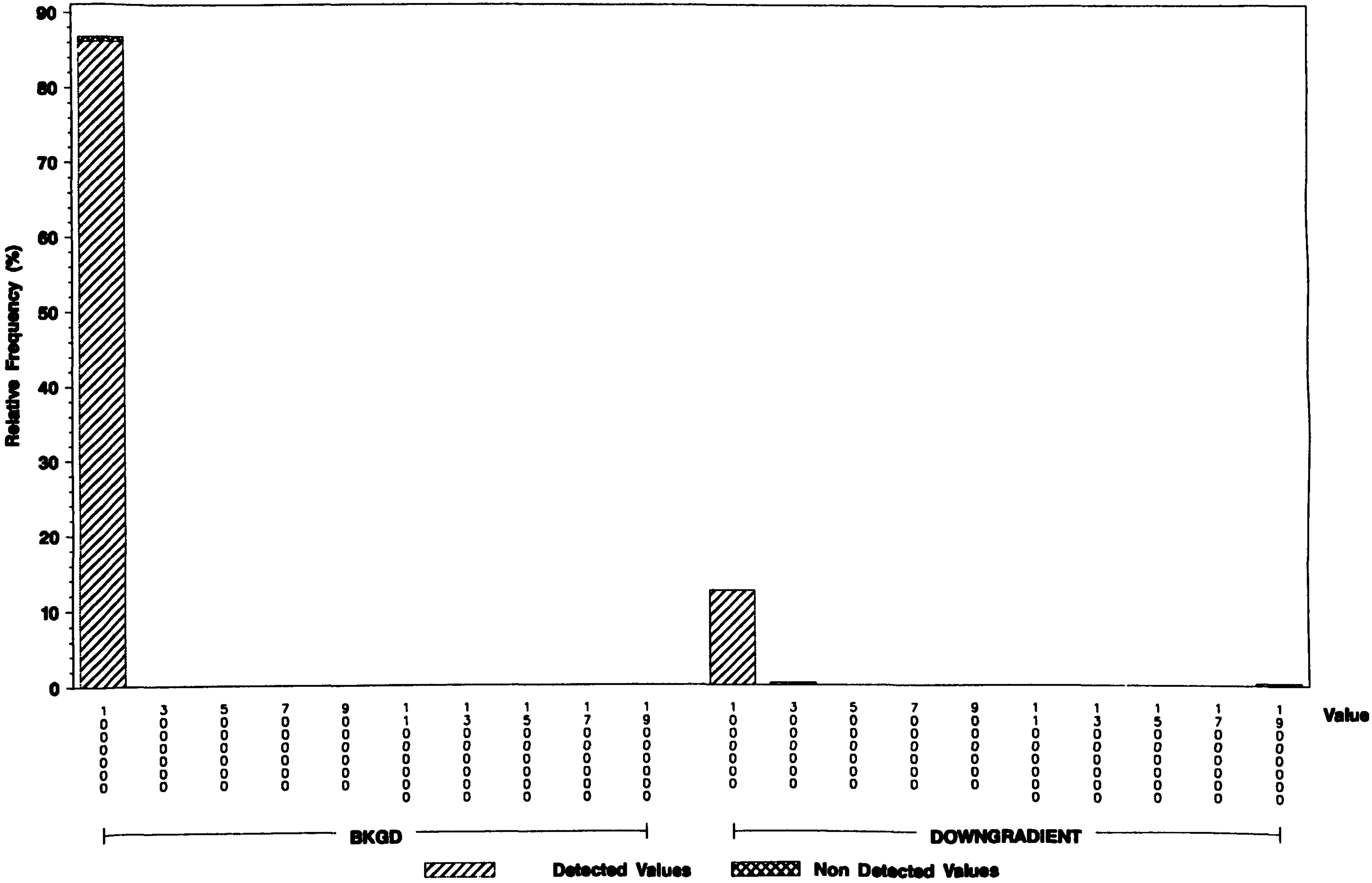
ANALYTE=STRONTIUM

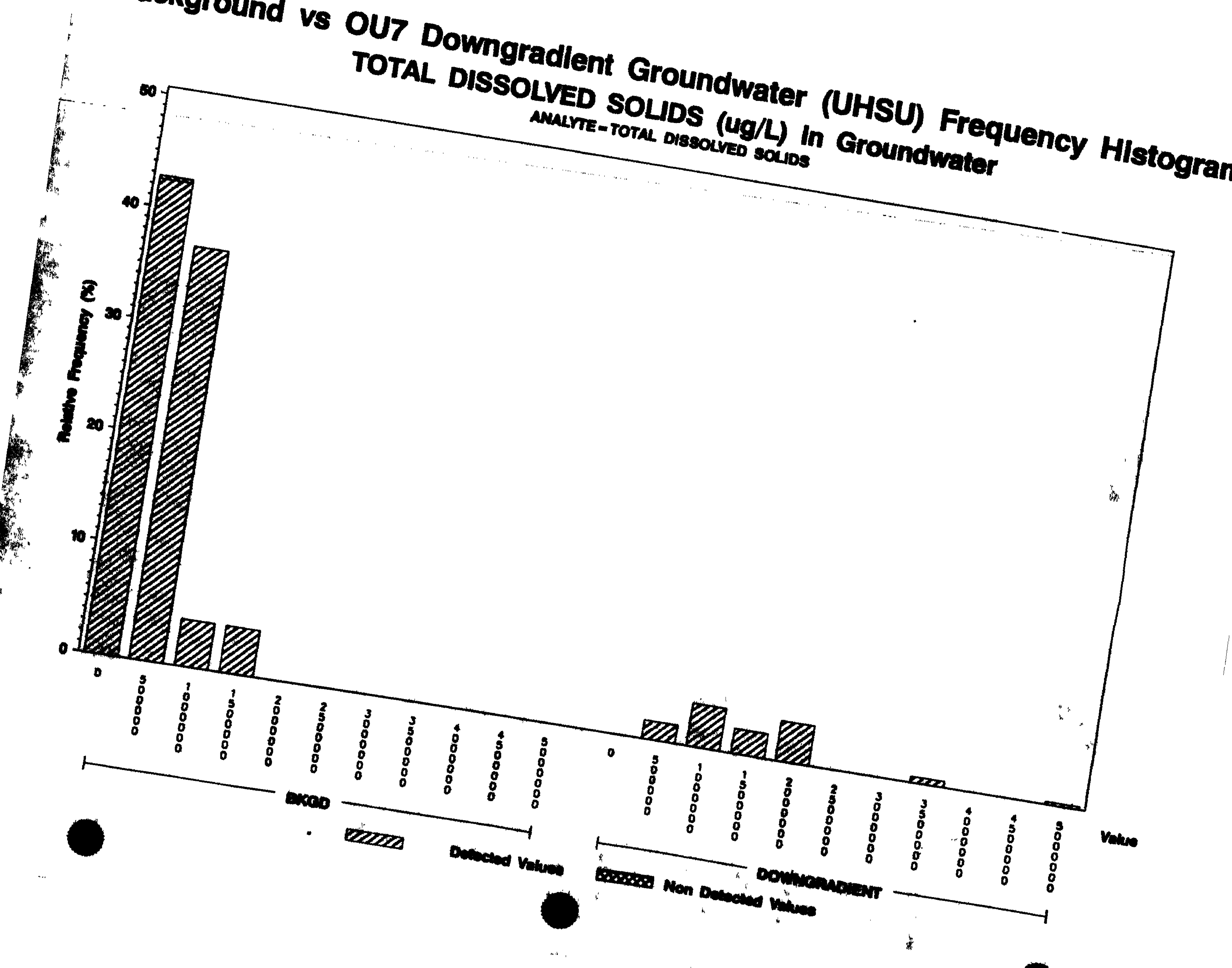


Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total SULFATE (ug/L) in Groundwater

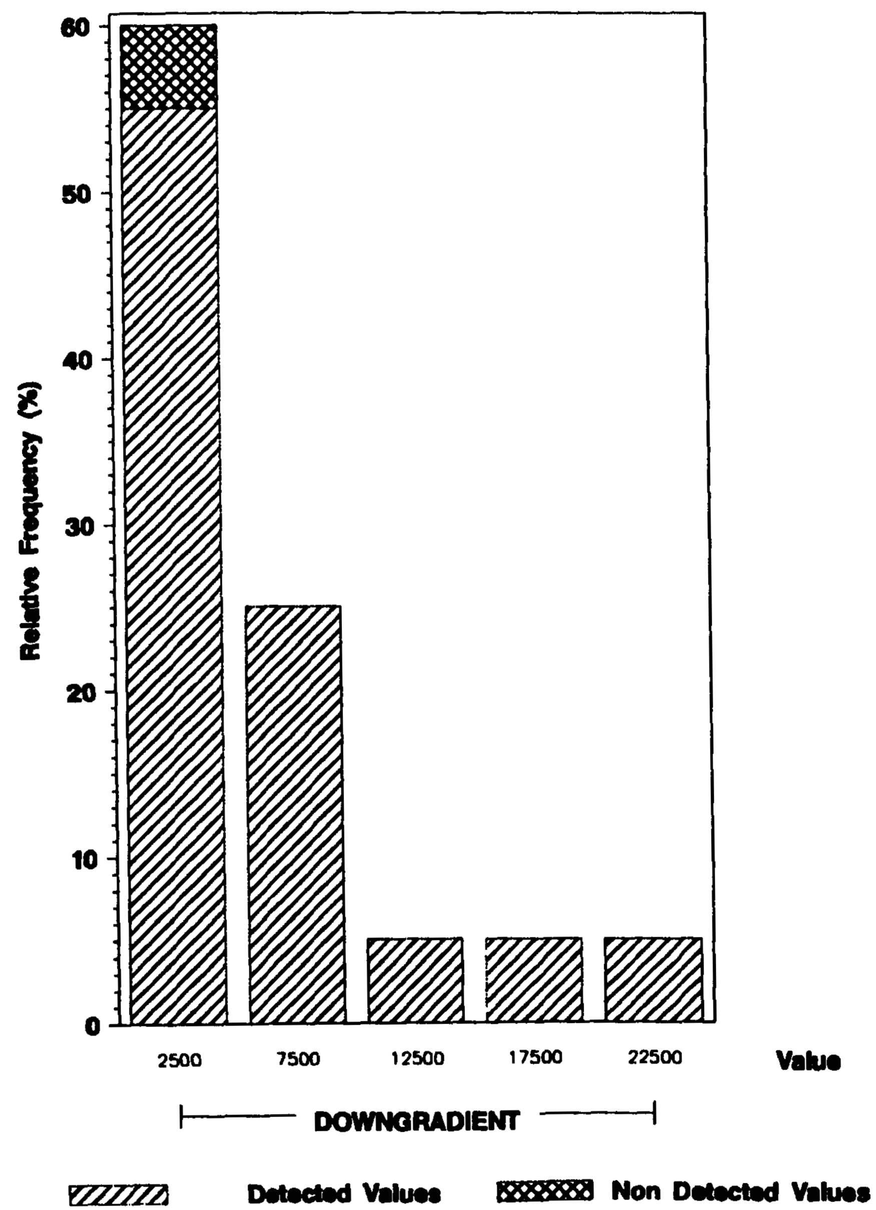
ANALYTE = SULFATE





...kground vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram
TOTAL DISSOLVED SOLIDS (ug/L) in Groundwater
ANALYTE=TOTAL DISSOLVED SOLIDS
Relative Frequency (%)
0
10
20
30
40
50
0
500000
1000000
1500000
2000000
2500000
3000000
3500000
4000000
4500000
5000000
BKGD
DOWNGRADIENT
Value
Detected Values
Non Detected Values

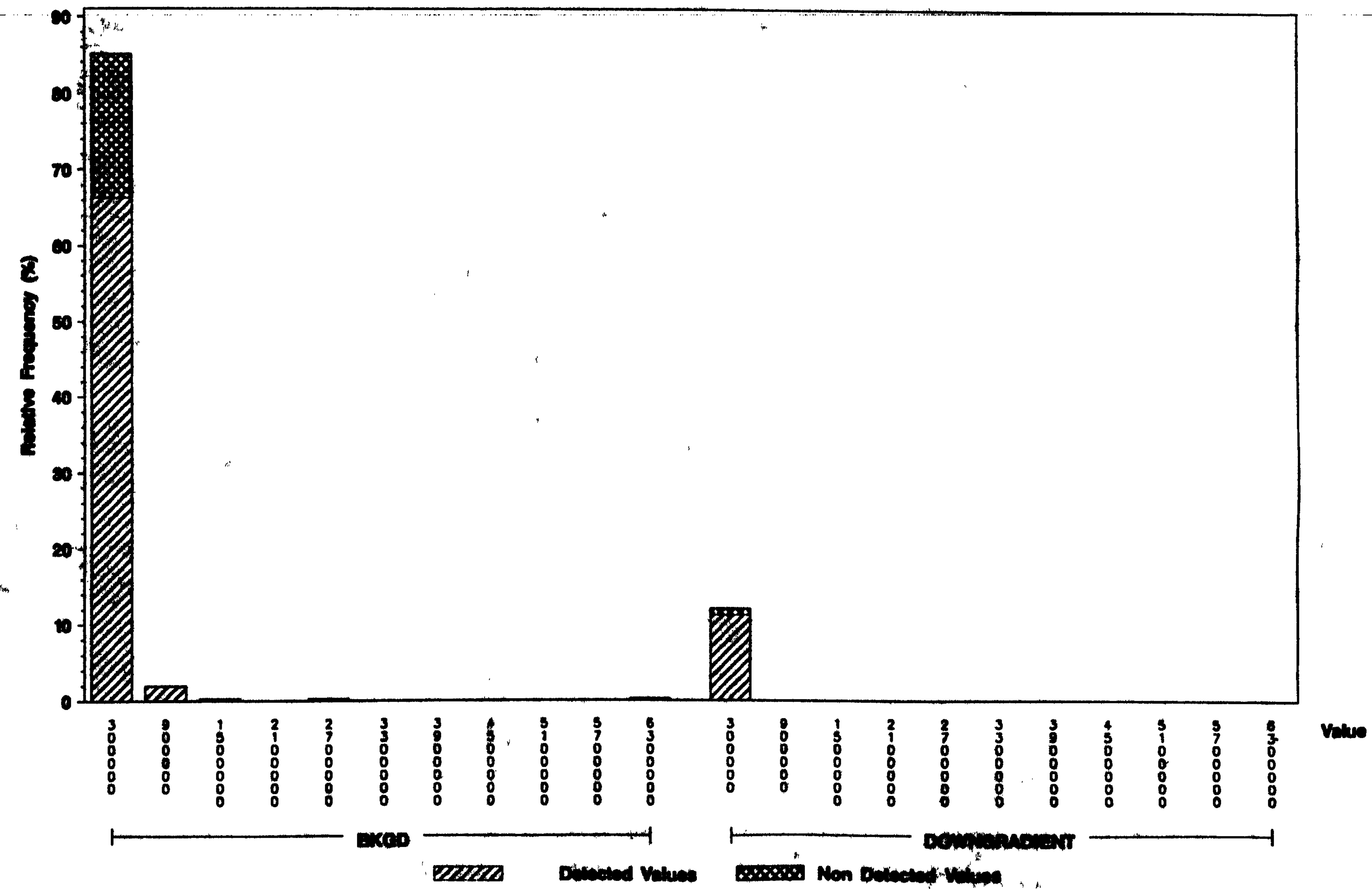
Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram
TOTAL ORGANIC CARBON (ug/L) in Groundwater
ANALYTE=TOTAL ORGANIC CARBON



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

TOTAL SUSPENDED SOLIDS (ug/L) in Groundwater

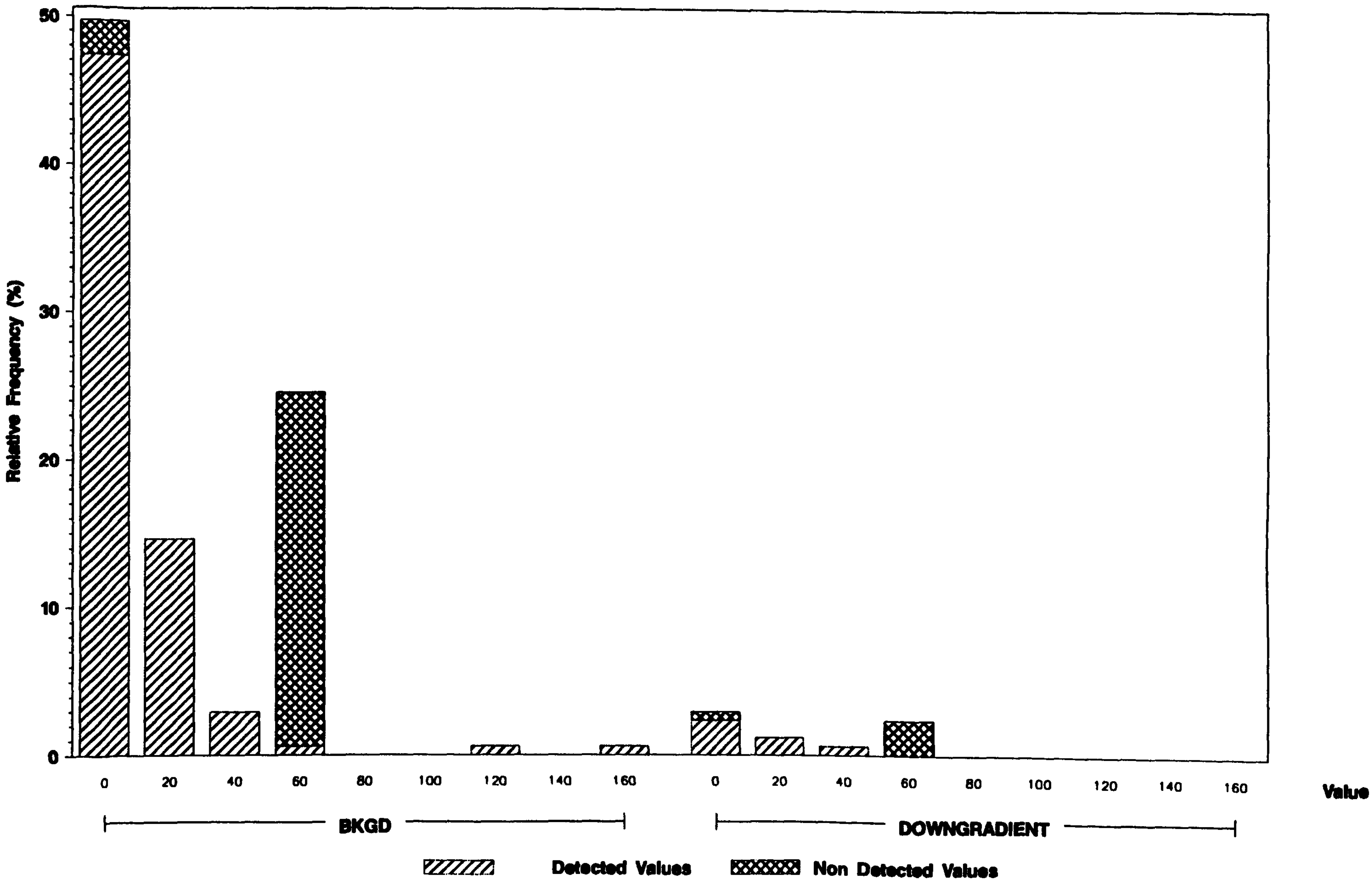
ANALYTE=TOTAL SUSPENDED SOLIDS



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total VANADIUM (ug/L) in Groundwater

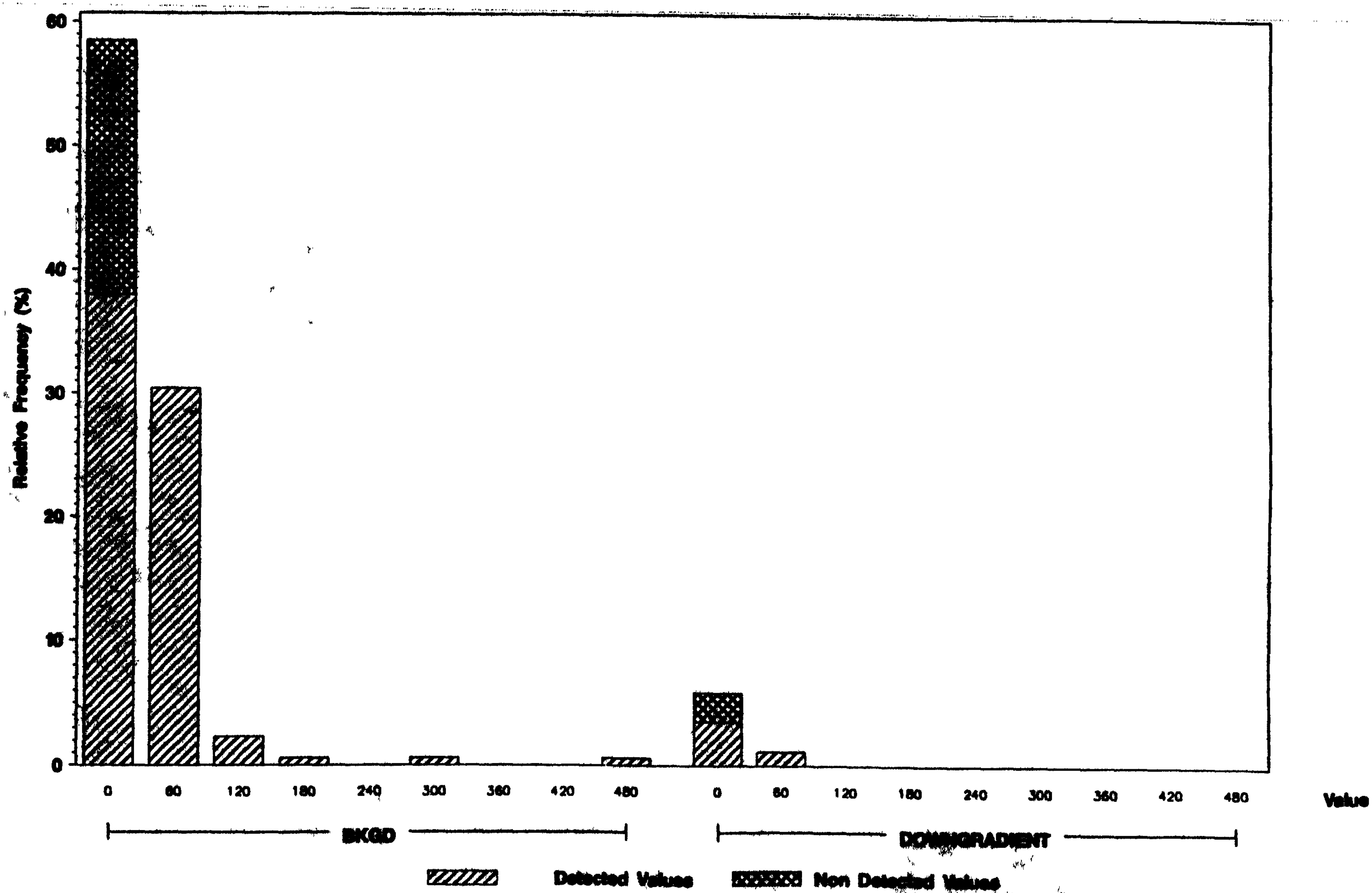
ANALYTE=VANADIUM



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total ZINC (ug/L) in Groundwater

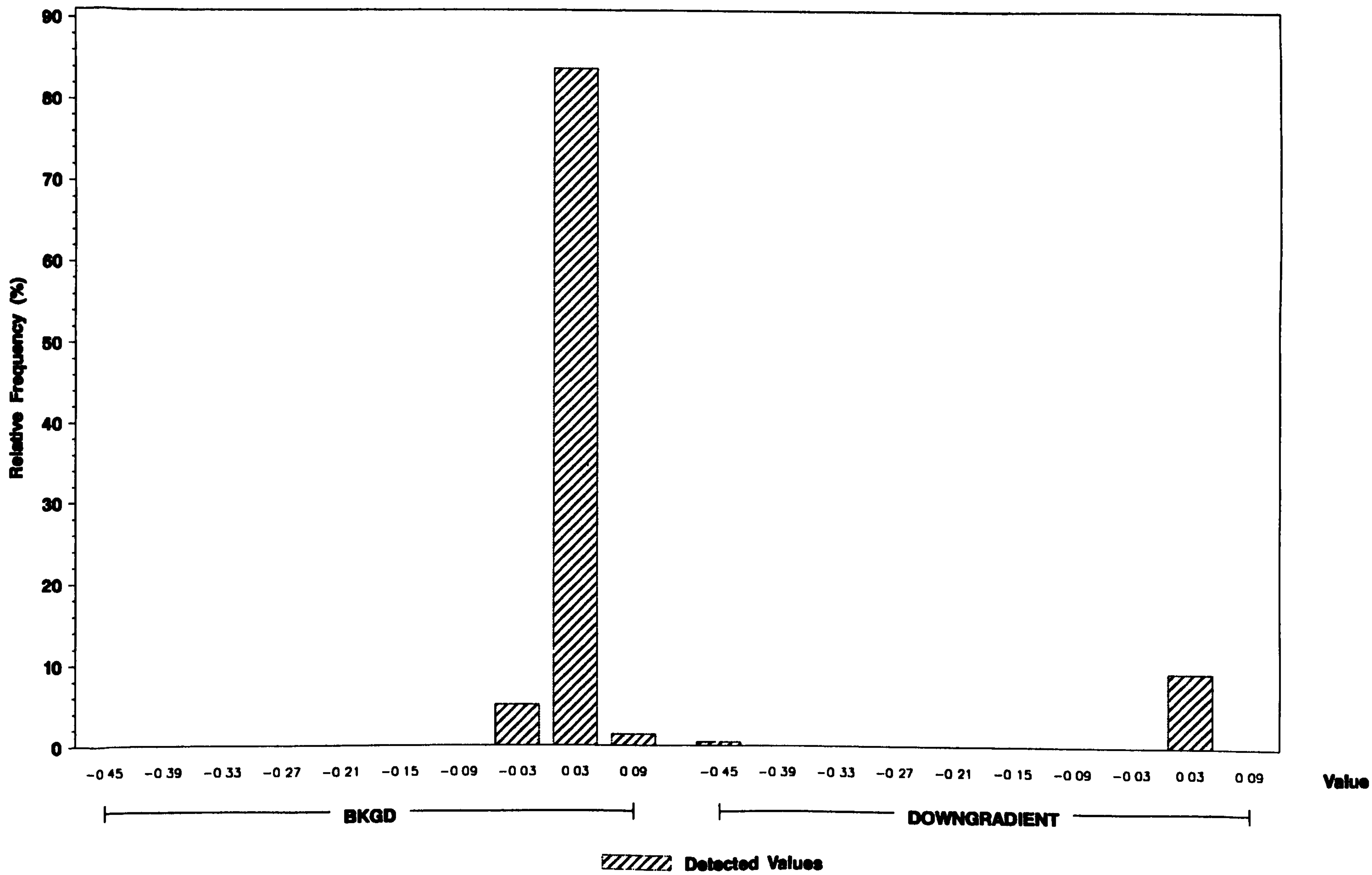
ANALYTE = ZINC



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total AMERICIUM-241 (pCi/L) in Groundwater

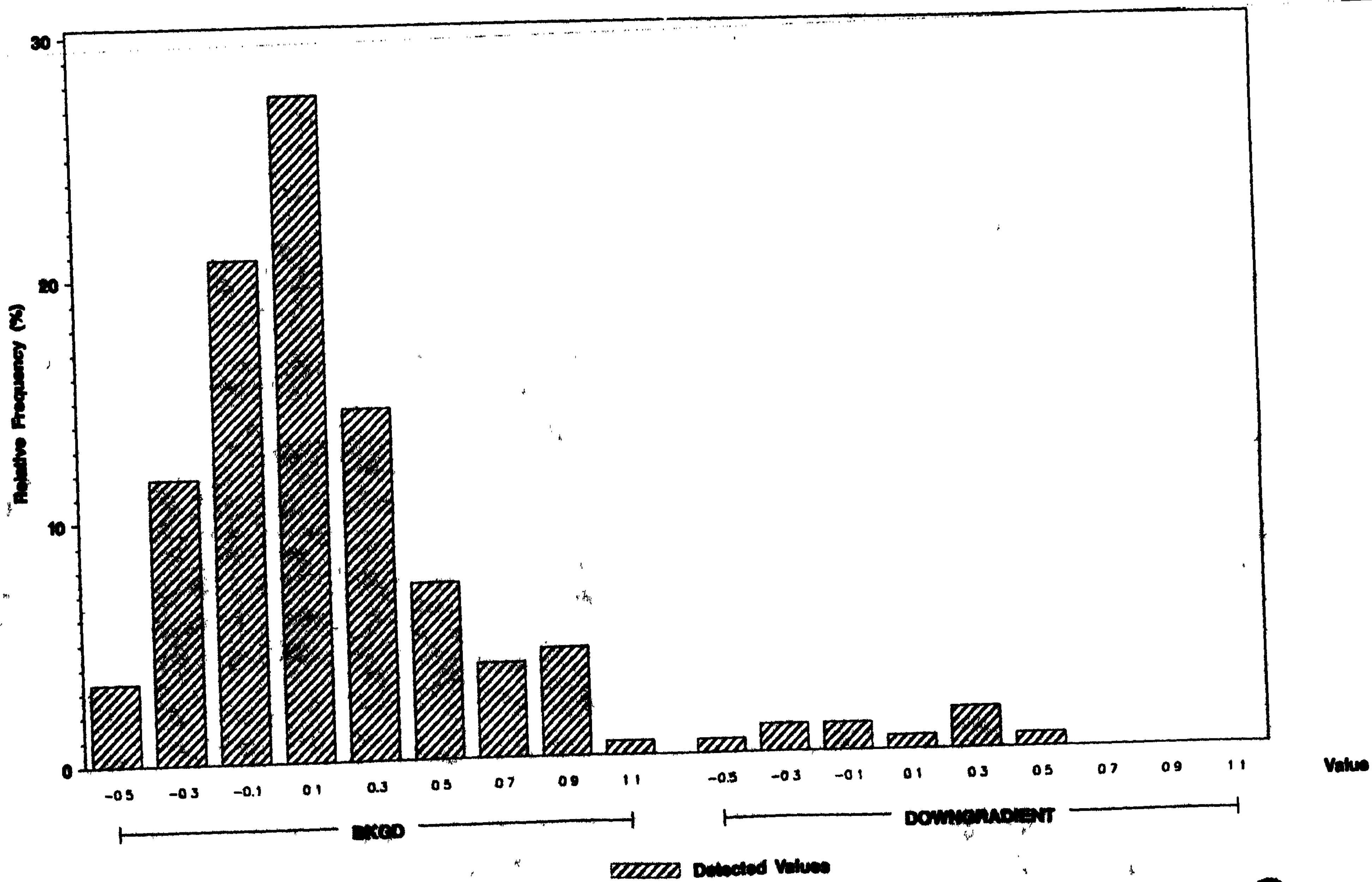
ANALYTE=AMERICIUM-241



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total CESIUM-137 (pCi/L) in Groundwater

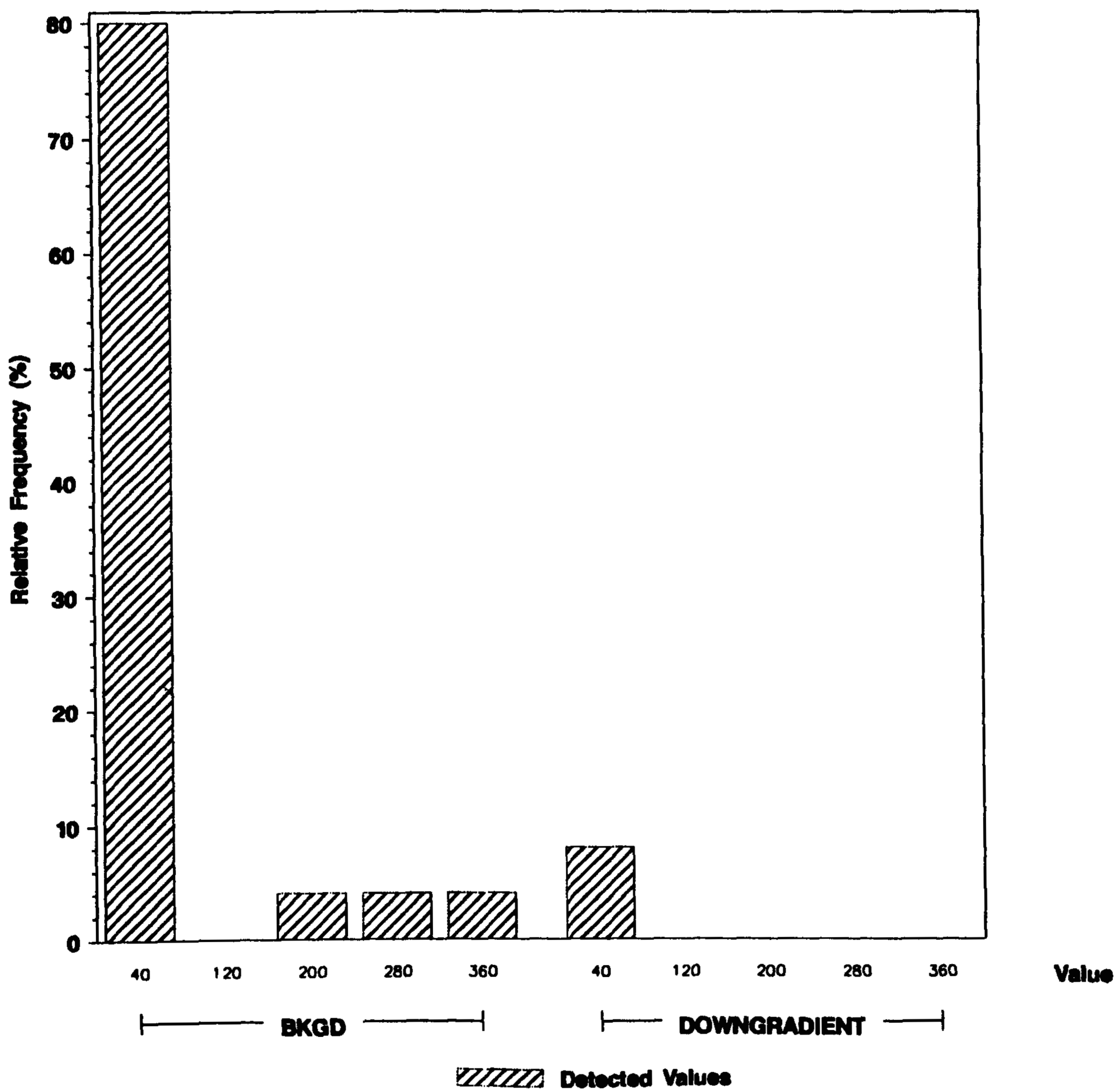
ANALYTE=CESIUM-137



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total GROSS ALPHA (pCi/L) in Groundwater

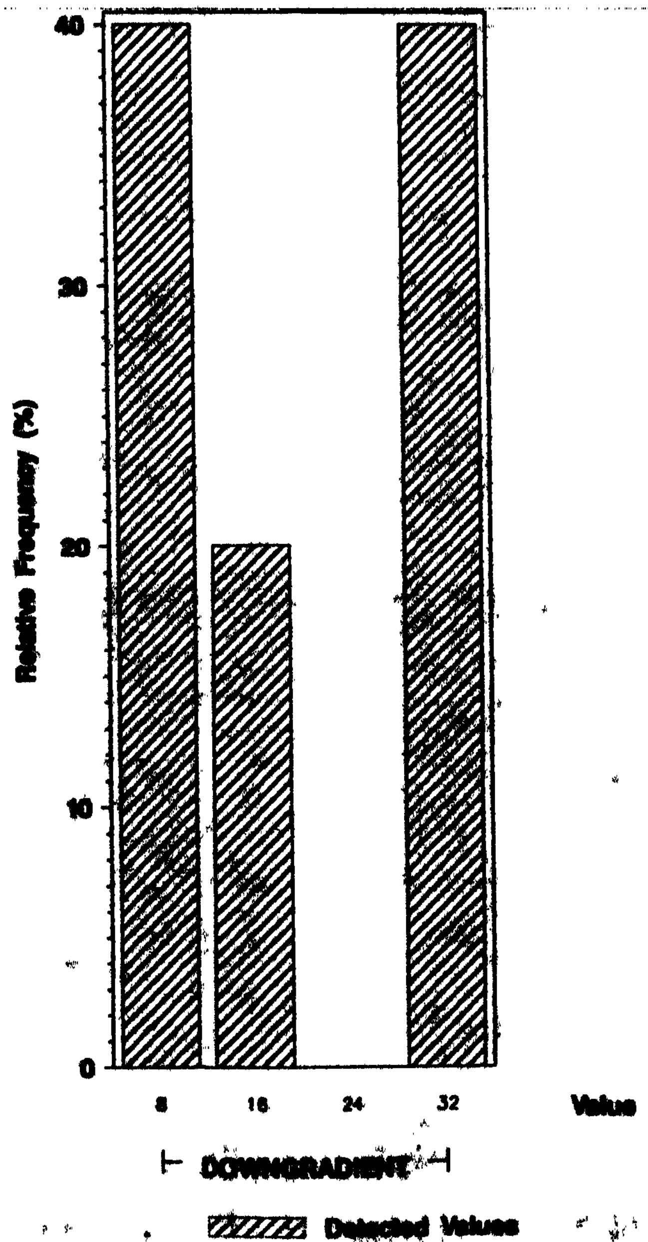
ANALYTE = GROSS ALPHA



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total GROSS ALPHA – DISSOLVED (pCi/L) in Groundwater

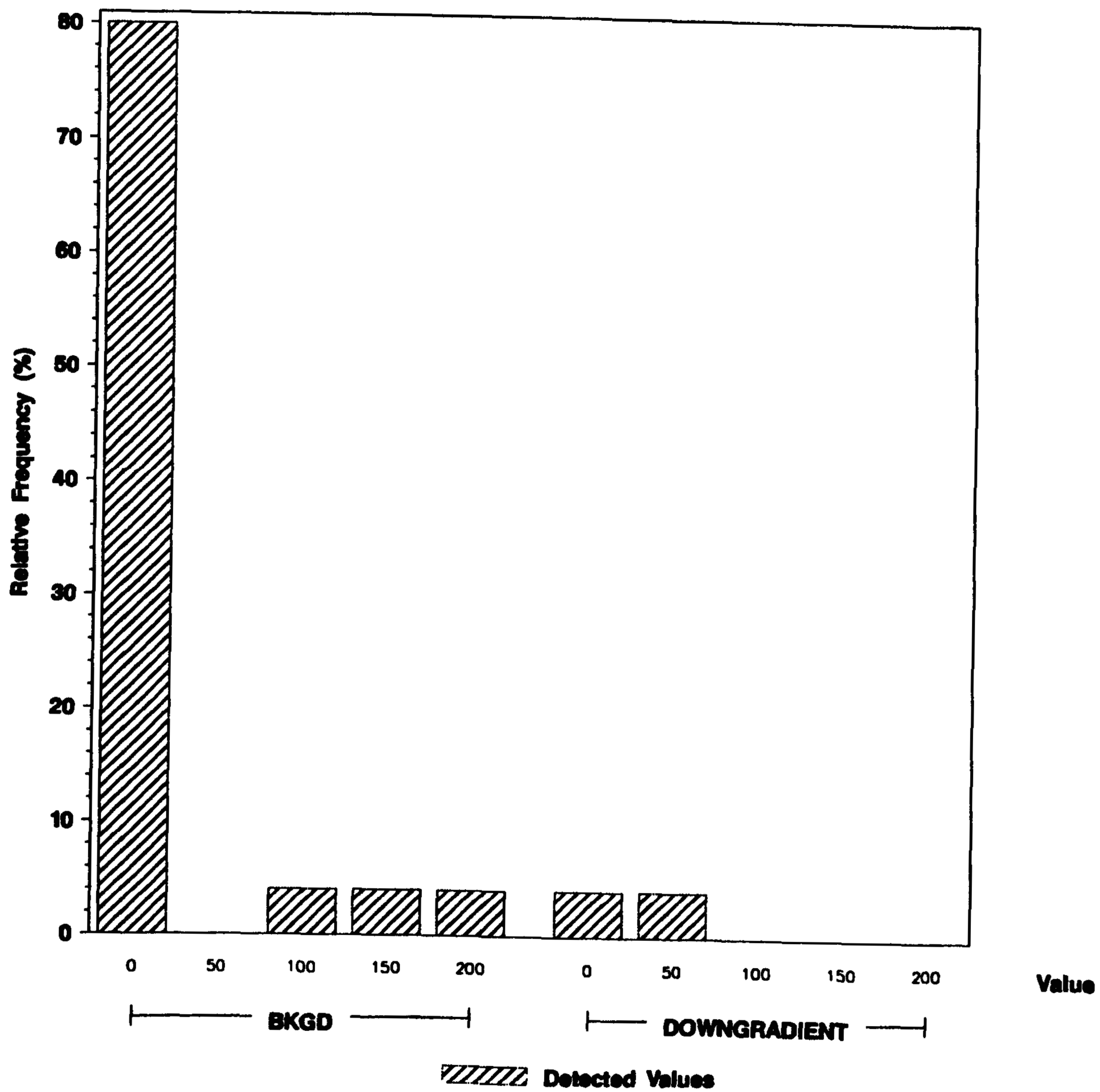
ANALYTE=GROSS ALPHA – DISSOLVED



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

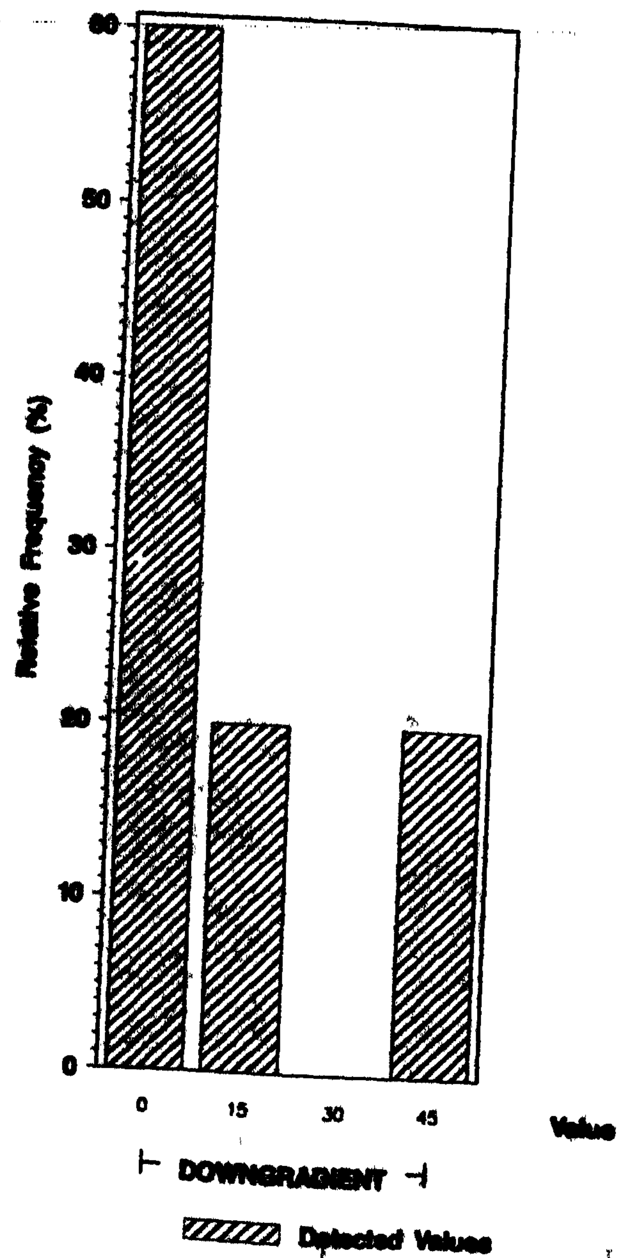
Total GROSS BETA (pCi/L) in Groundwater

ANALYTE=GROSS BETA



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram
Total GROSS BETA – DISSOLVED (pCi/L) in Groundwater

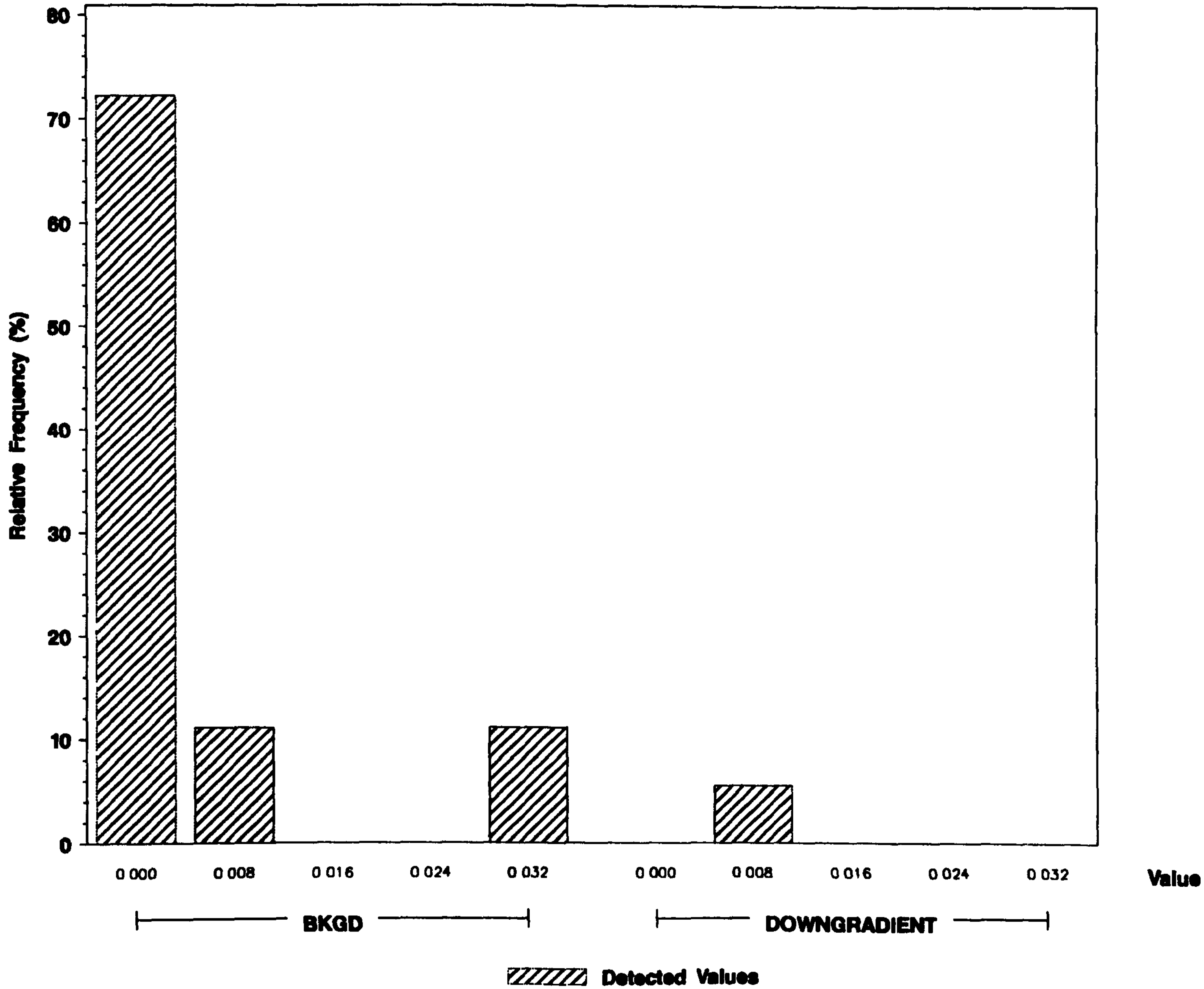
ANALYTE=GROSS BETA – DISSOLVED



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total PLUTONIUM – 238 (pCi/L) in Groundwater

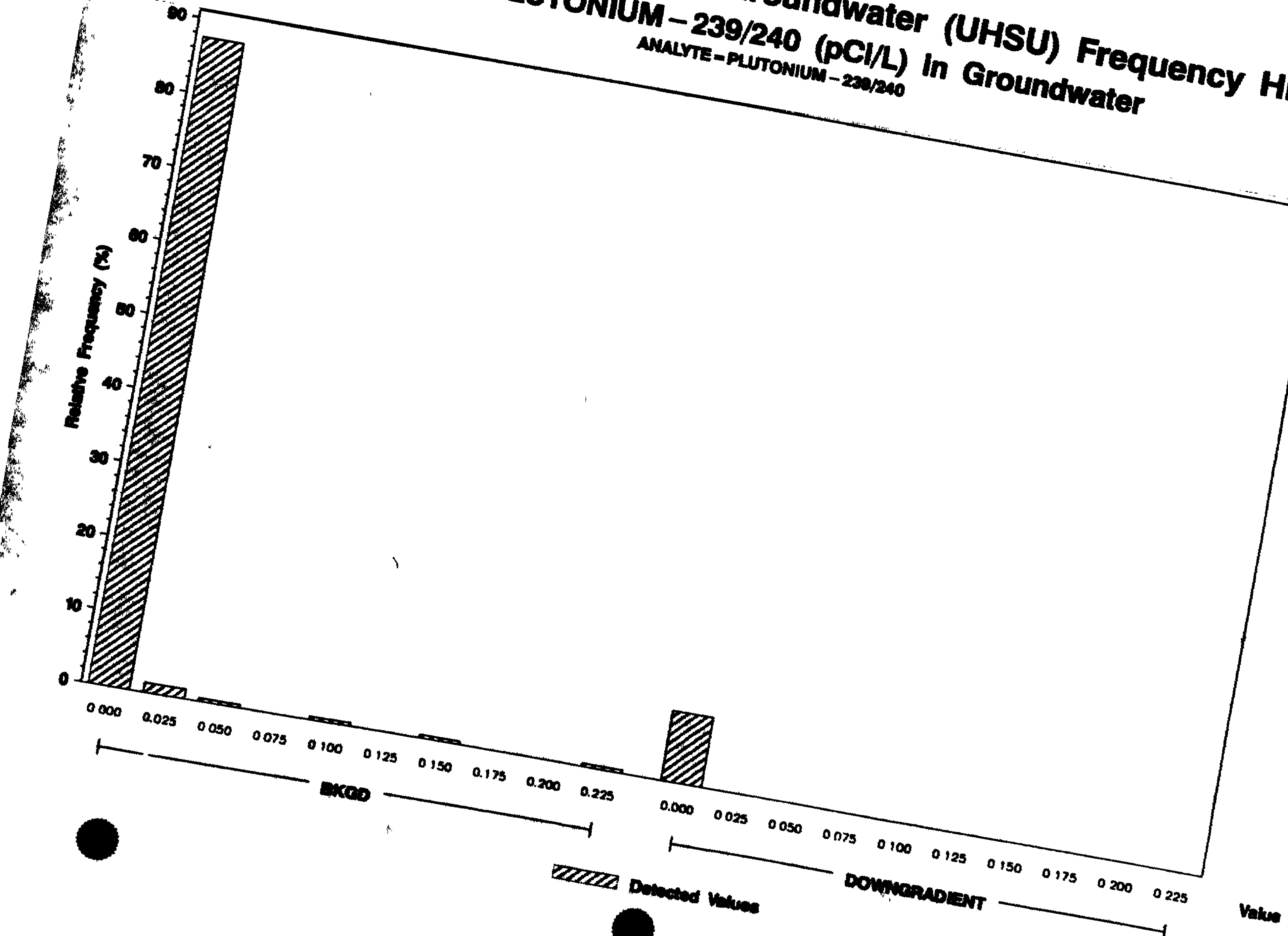
ANALYTE = PLUTONIUM – 238



...ground vs OU7 Downgradient Groundwater (UHSU) Frequency Histogra...

Total PLUTONIUM-239/240 (pCi/L) In Groundwater

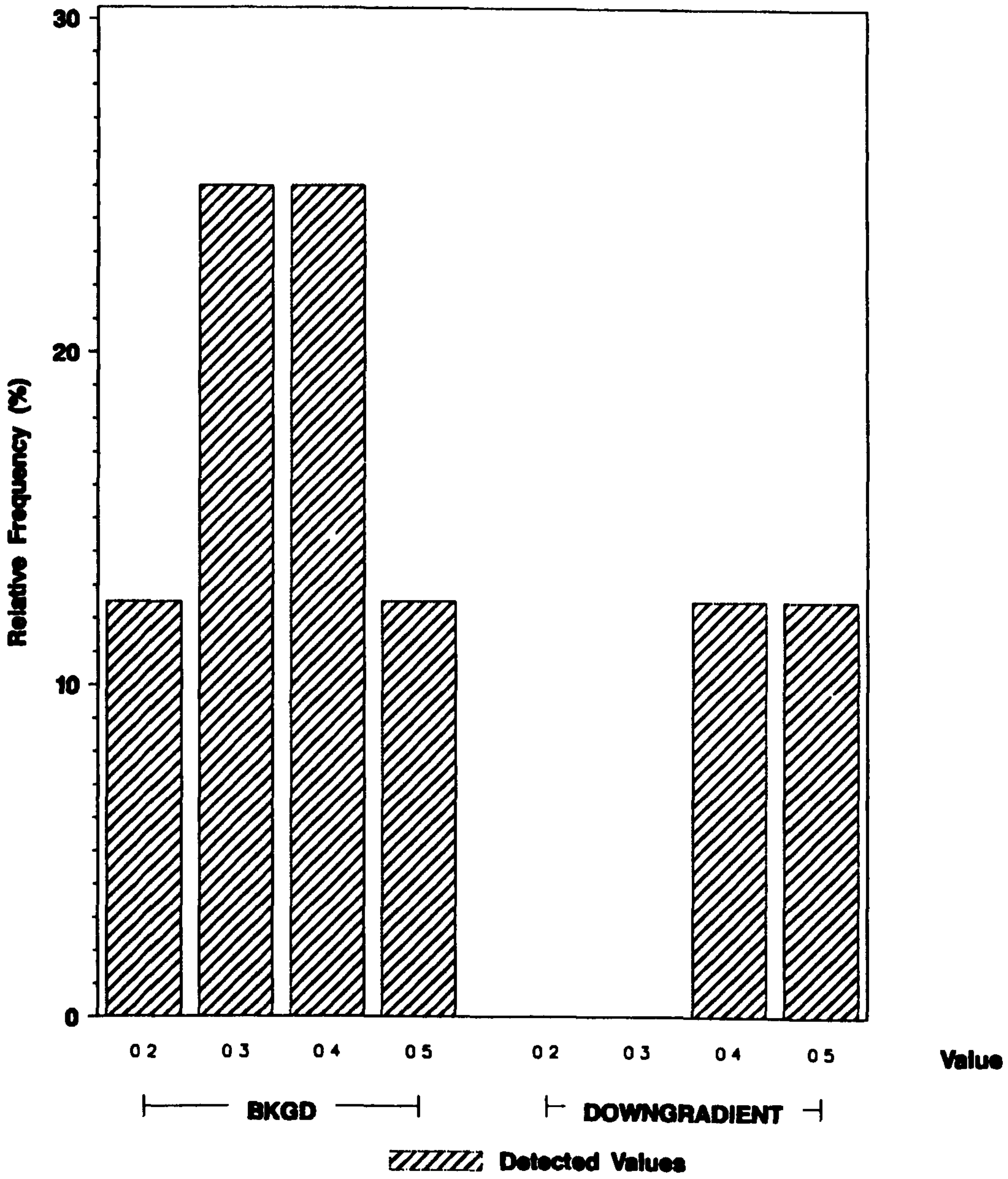
ANALYTE=PLUTONIUM-239/240



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total RADIUM-226 (pCi/L) in Groundwater

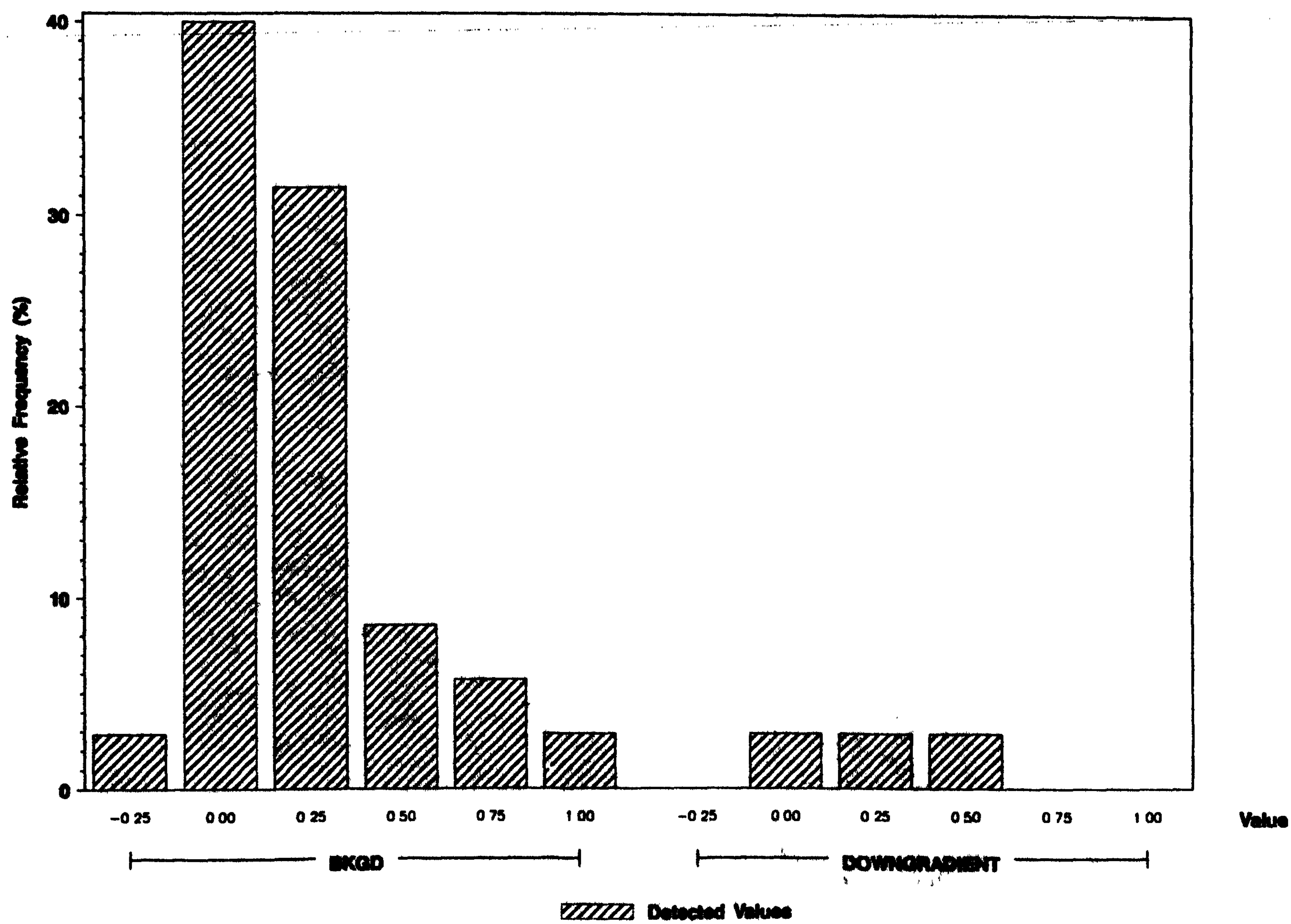
ANALYTE=RADIUM-226



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total STRONTIUM-89,90 (pCi/L) in Groundwater

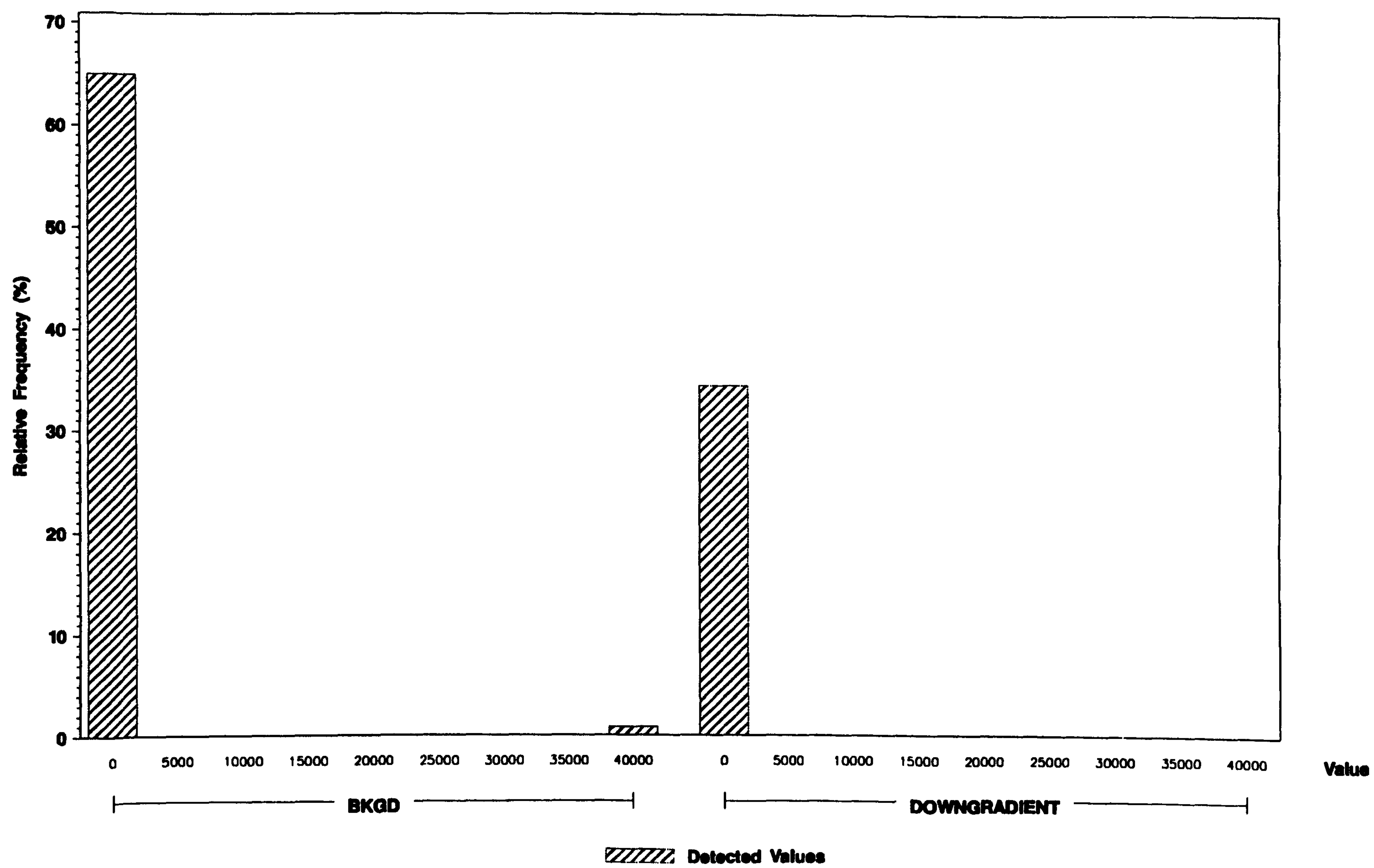
ANALYTE=STRONTIUM-89,90



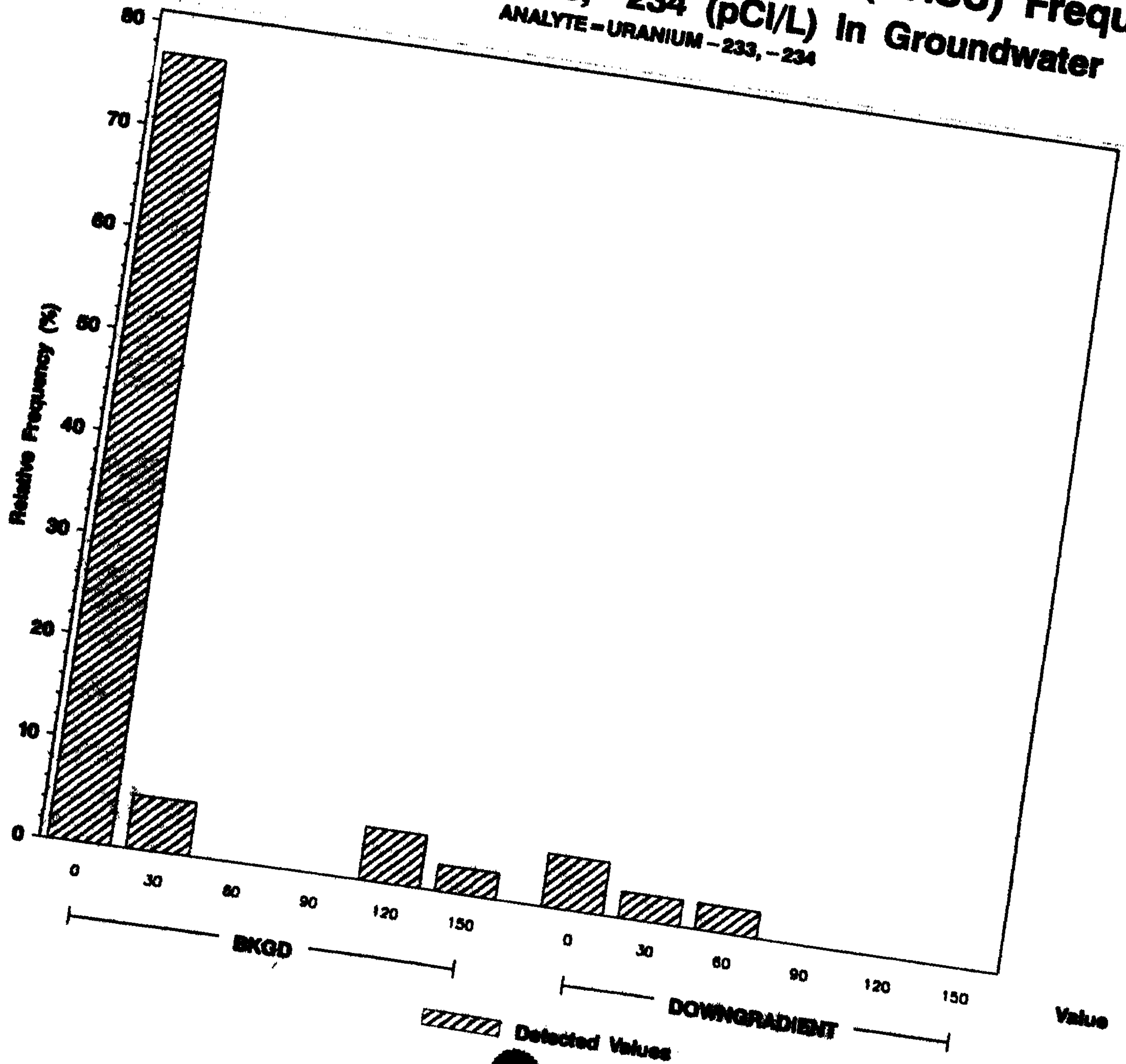
Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total TRITIUM (pCi/L) in Groundwater

ANALYTE = TRITIUM



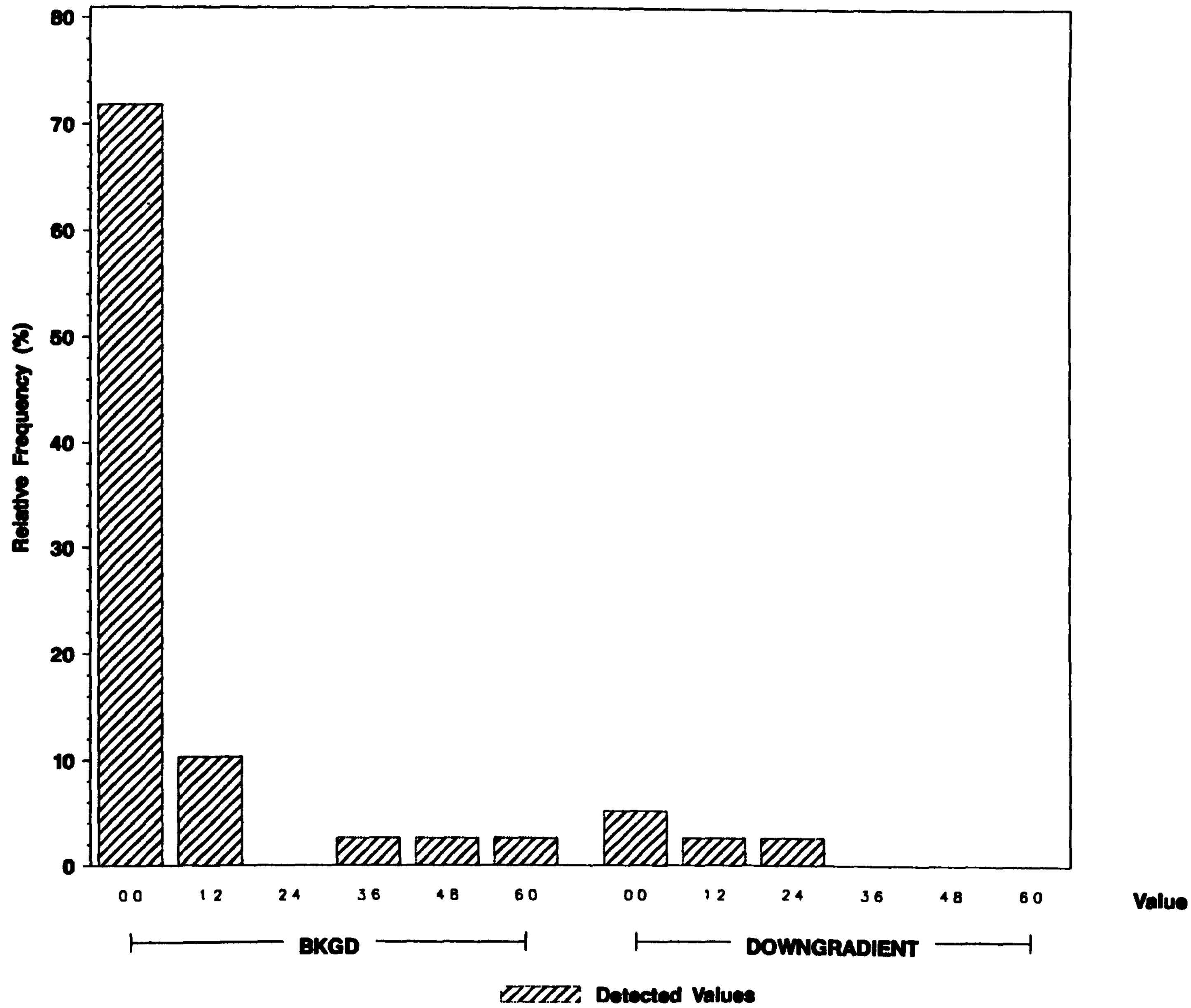
Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram
Total URANIUM-233,-234 (pCi/L) in Groundwater



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total URANIUM – 235 (pCi/L) in Groundwater

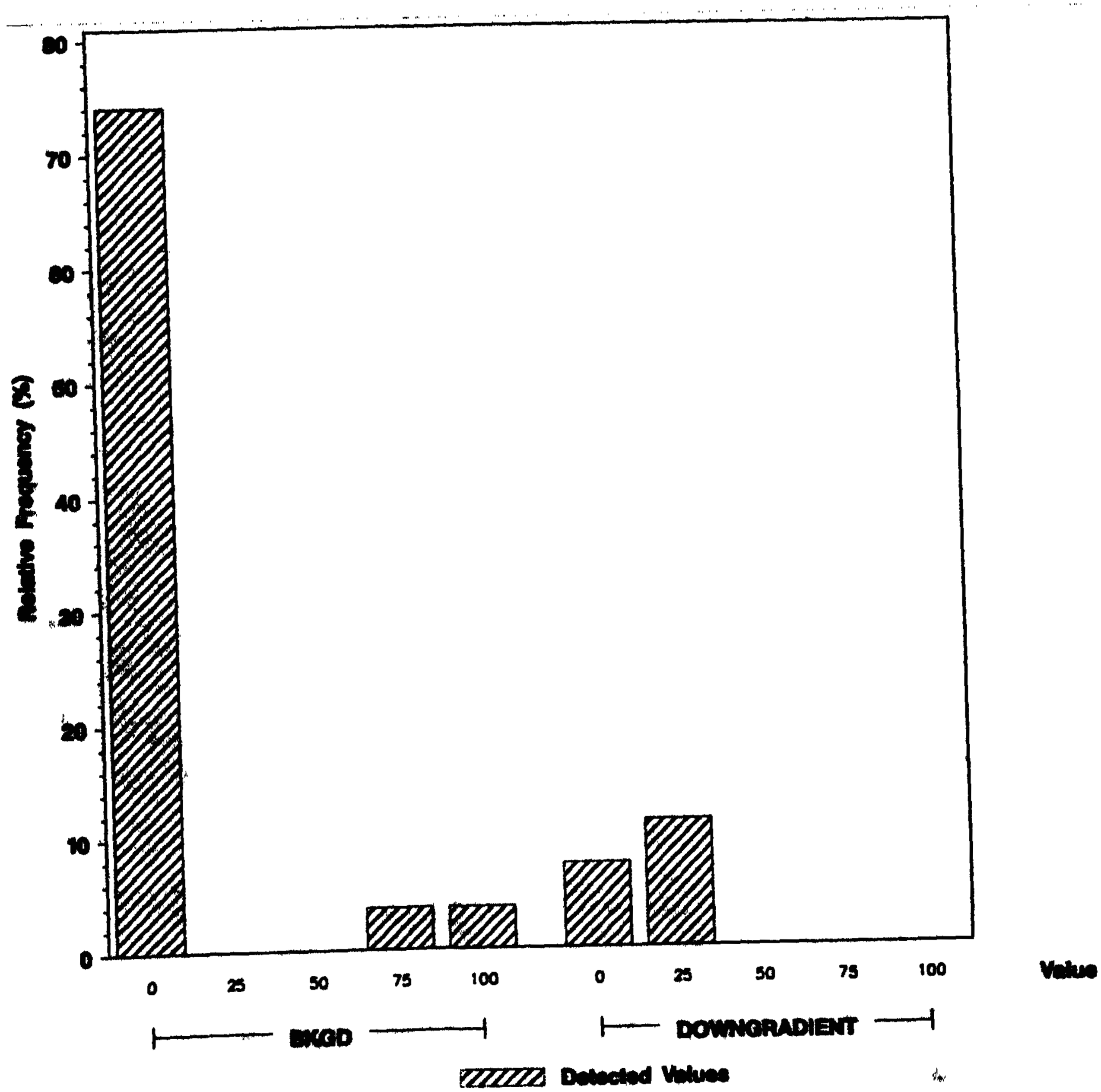
ANALYTE = URANIUM – 235



Background vs OU7 Downgradient Groundwater (UHSU) Frequency Histogram

Total URANIUM – 238 (pCI/L) In Groundwater

ANALYTE = URANIUM – 238



Groundwater

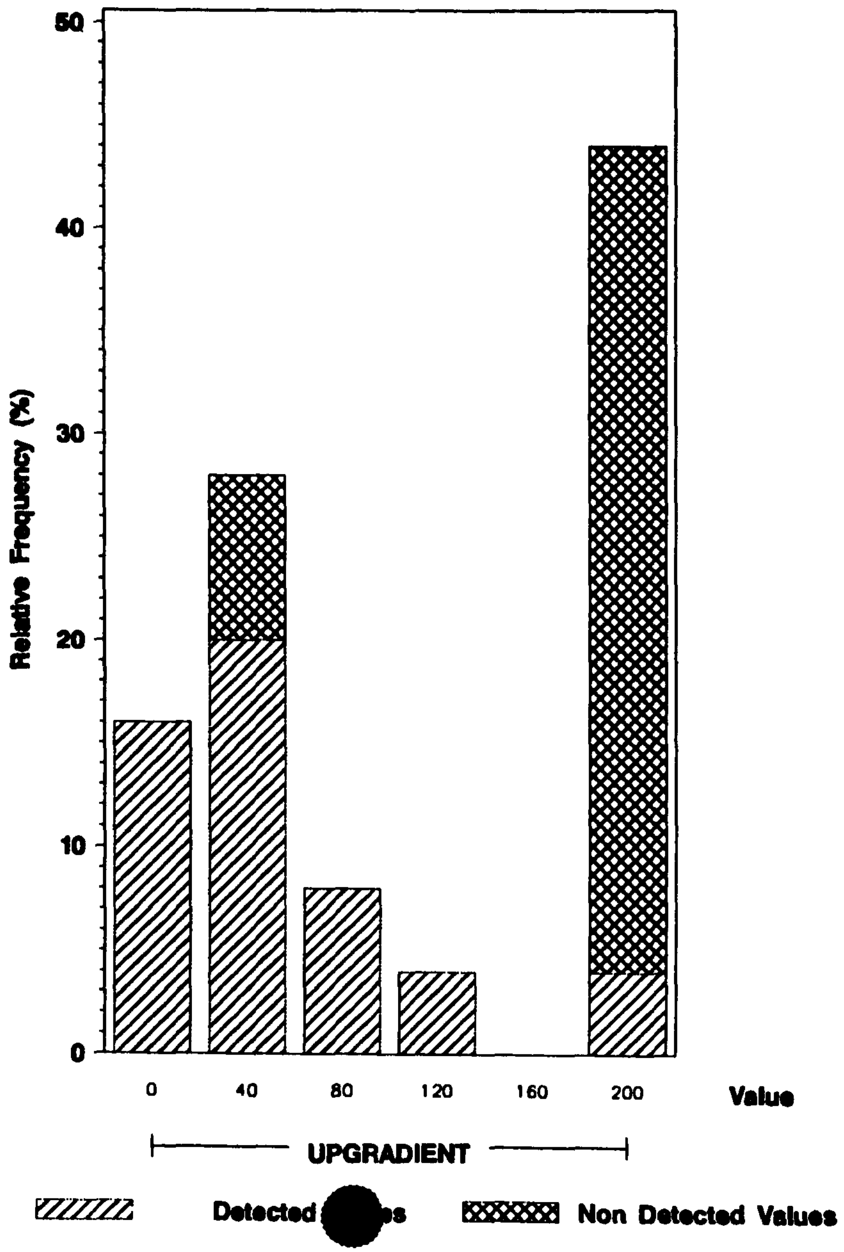
(Dissolved)

Background vs. OU 7 Upgradient LHSU

Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved ALUMINUM (ug/L) in Groundwater

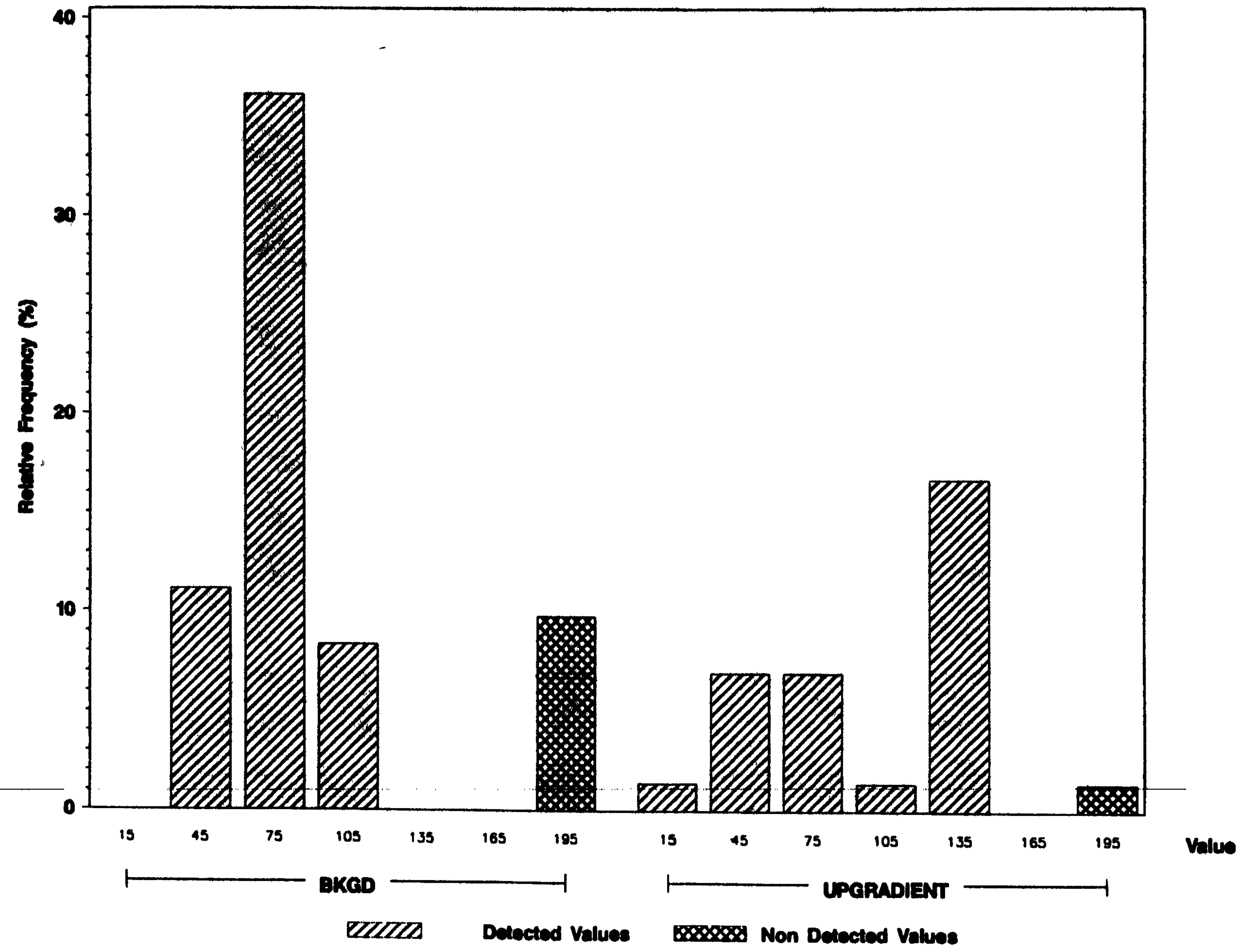
ANALYTE=ALUMINUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved BARIUM (ug/L) in Groundwater

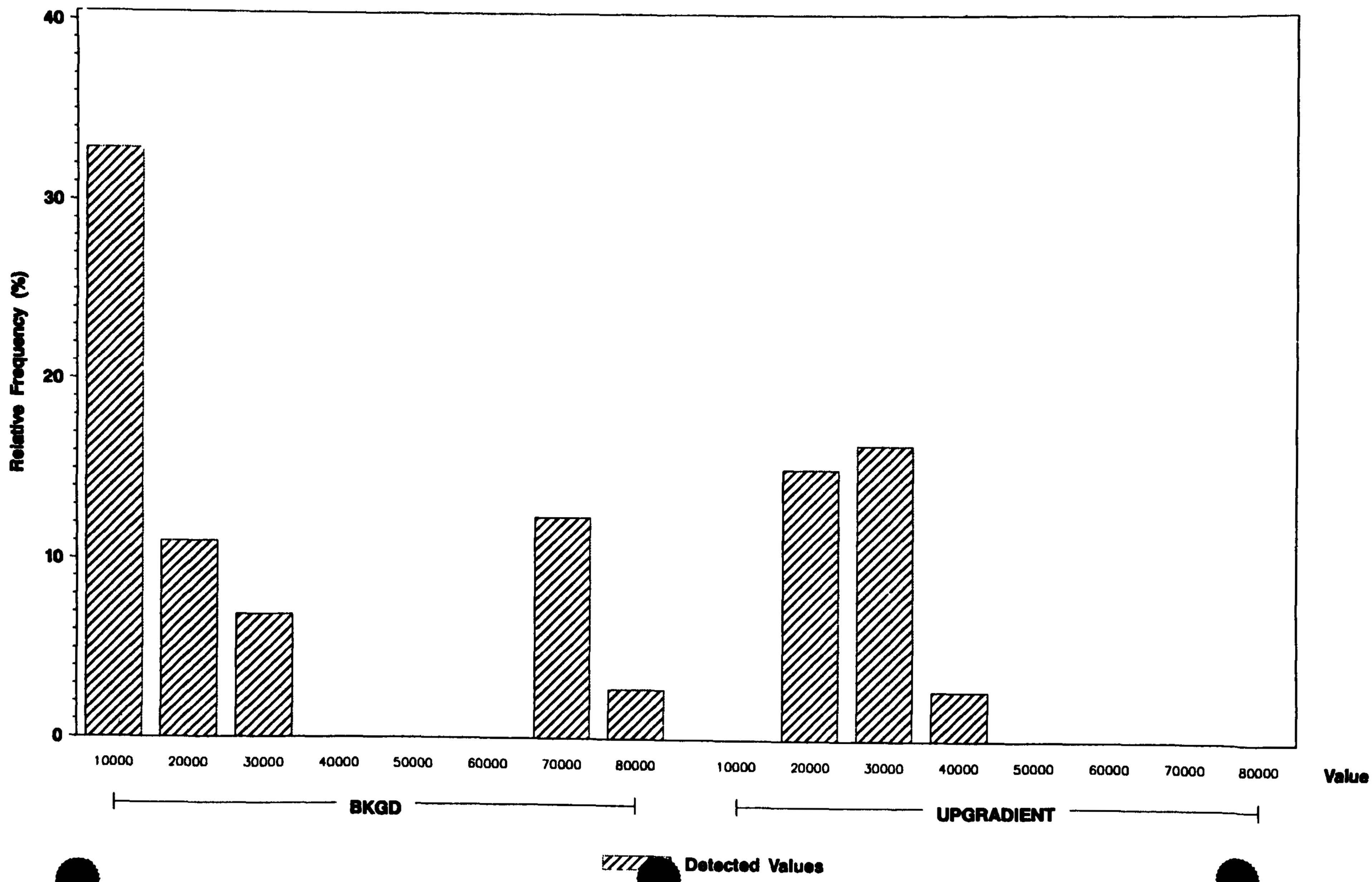
ANALYTE=BARIUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved CALCIUM (ug/L) in Groundwater

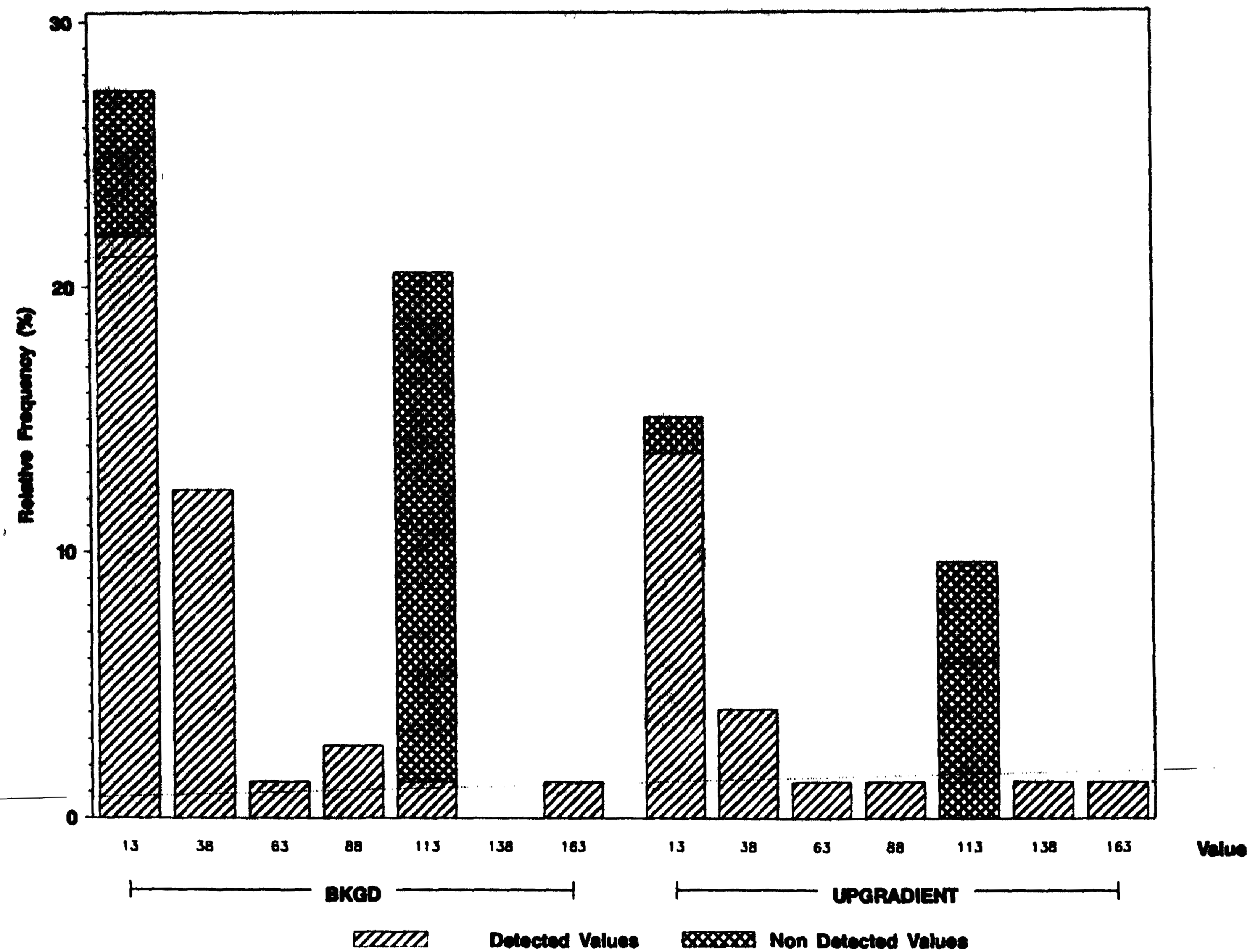
ANALYTE=CALCIUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved IRON (ug/L) in Groundwater

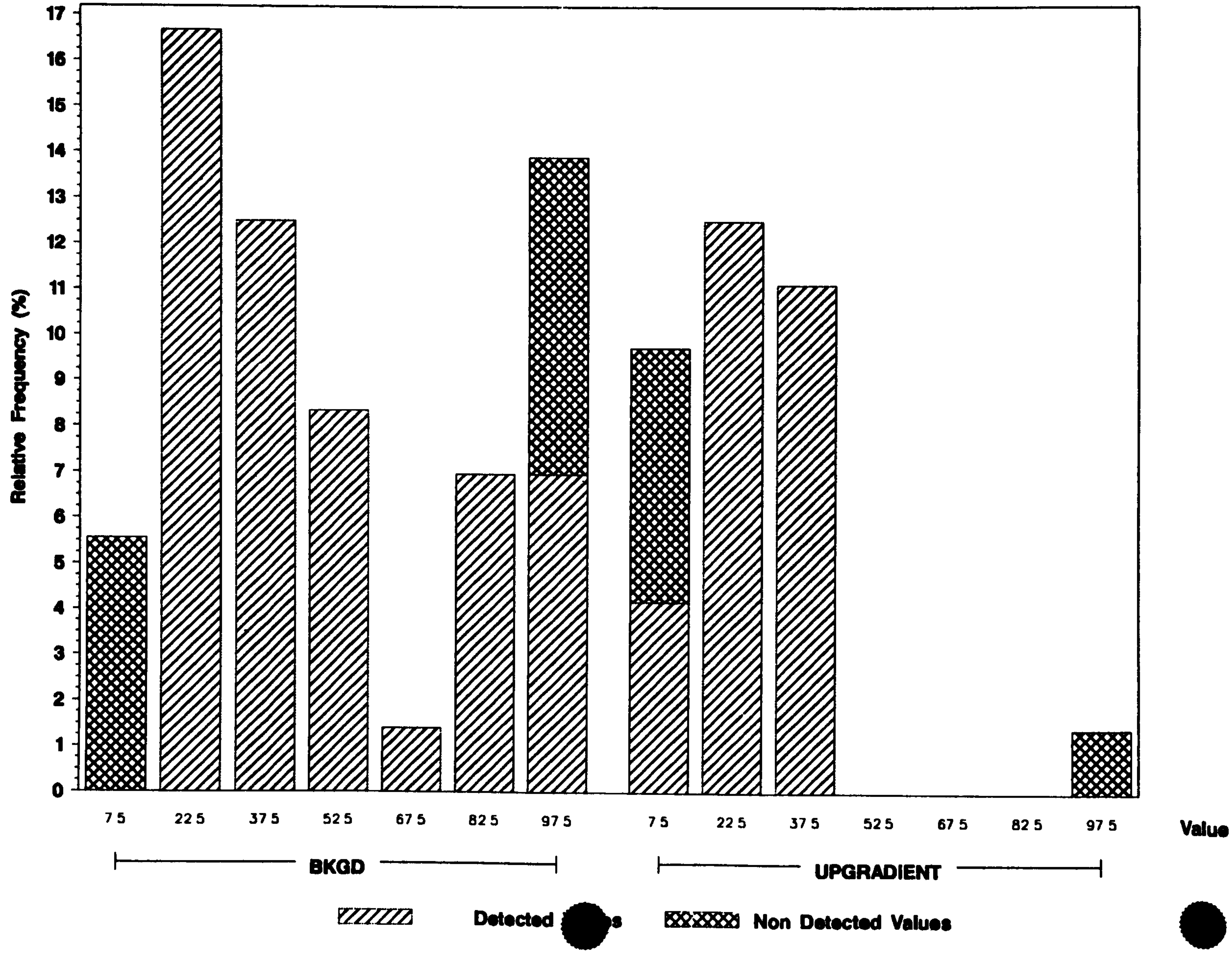
ANALYTE=IRON



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved LITHIUM (ug/L) in Groundwater

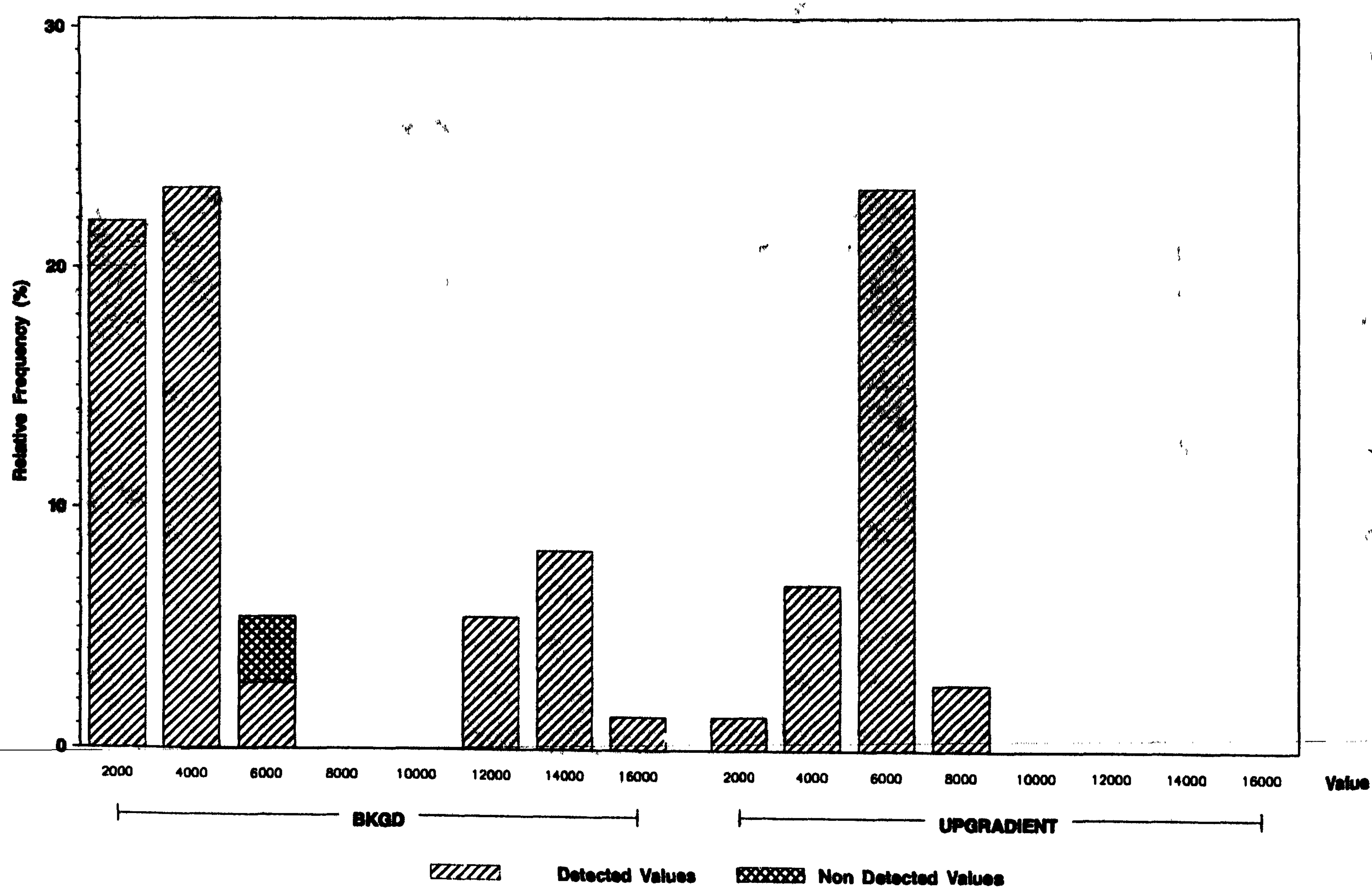
ANALYTE = LITHIUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved MAGNESIUM (ug/L) in Groundwater

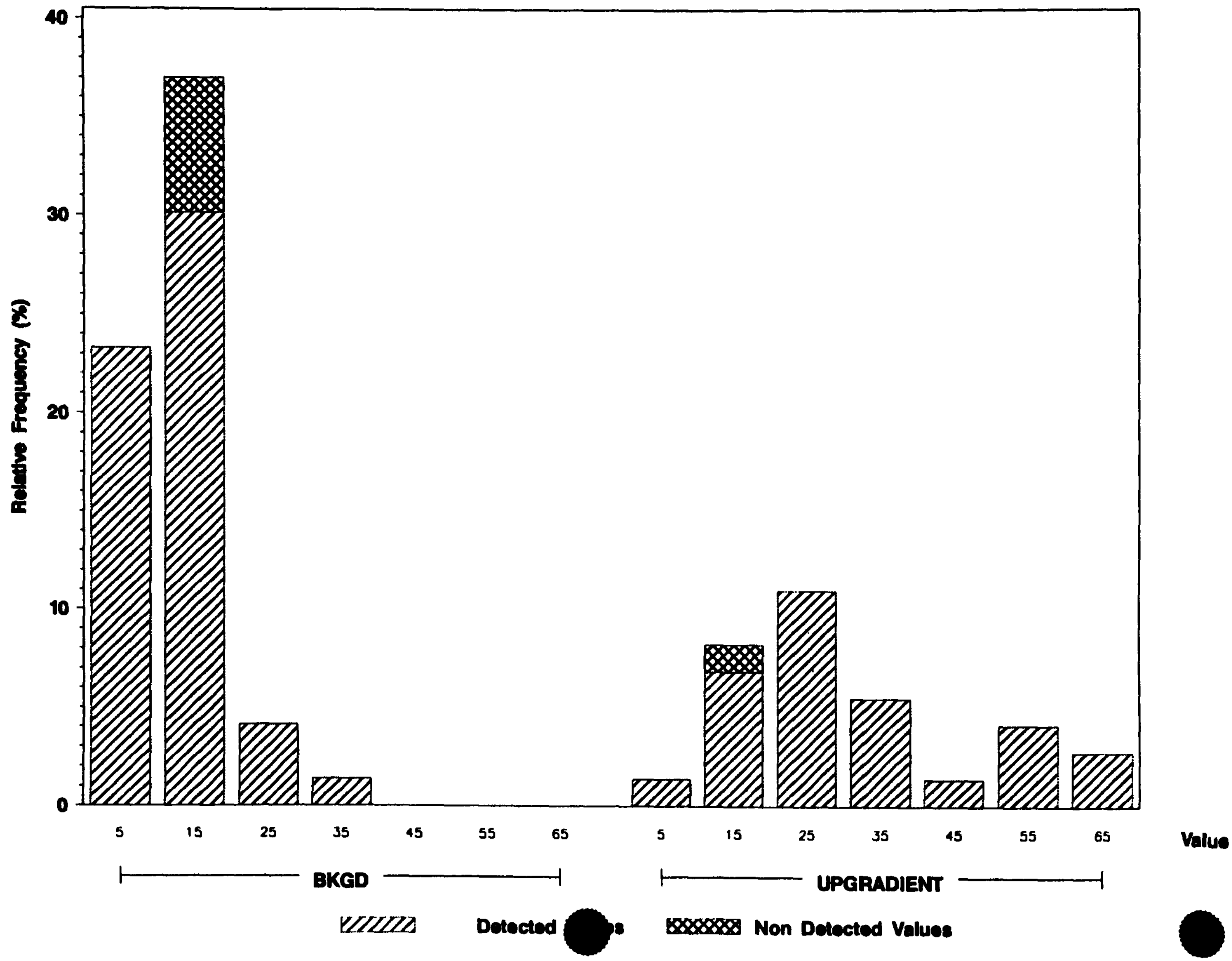
ANALYTE=MAGNESIUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved MANGANESE (ug/L) in Groundwater

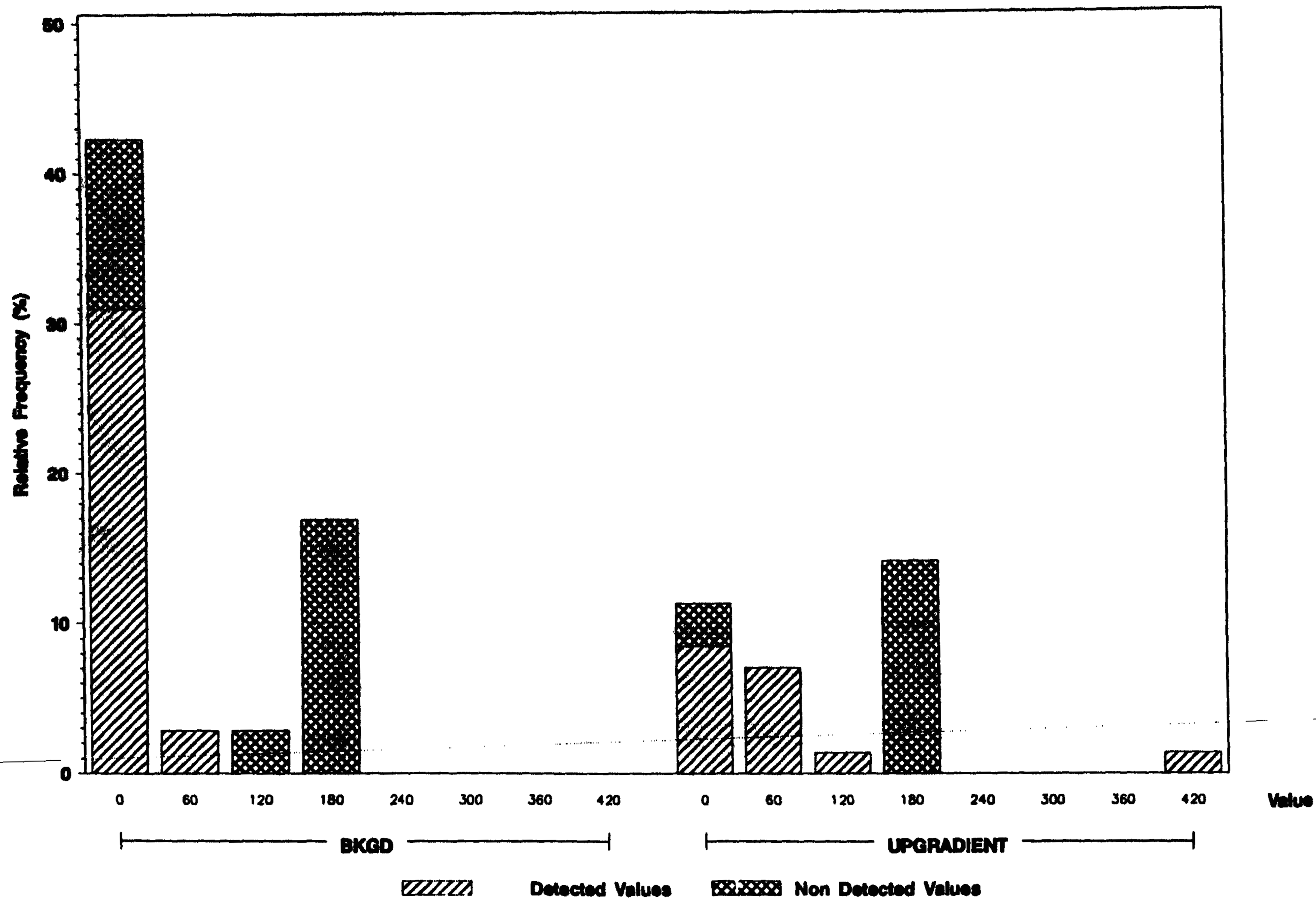
ANALYTE = MANGANESE



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved MOLYBDENUM (ug/L) in Groundwater

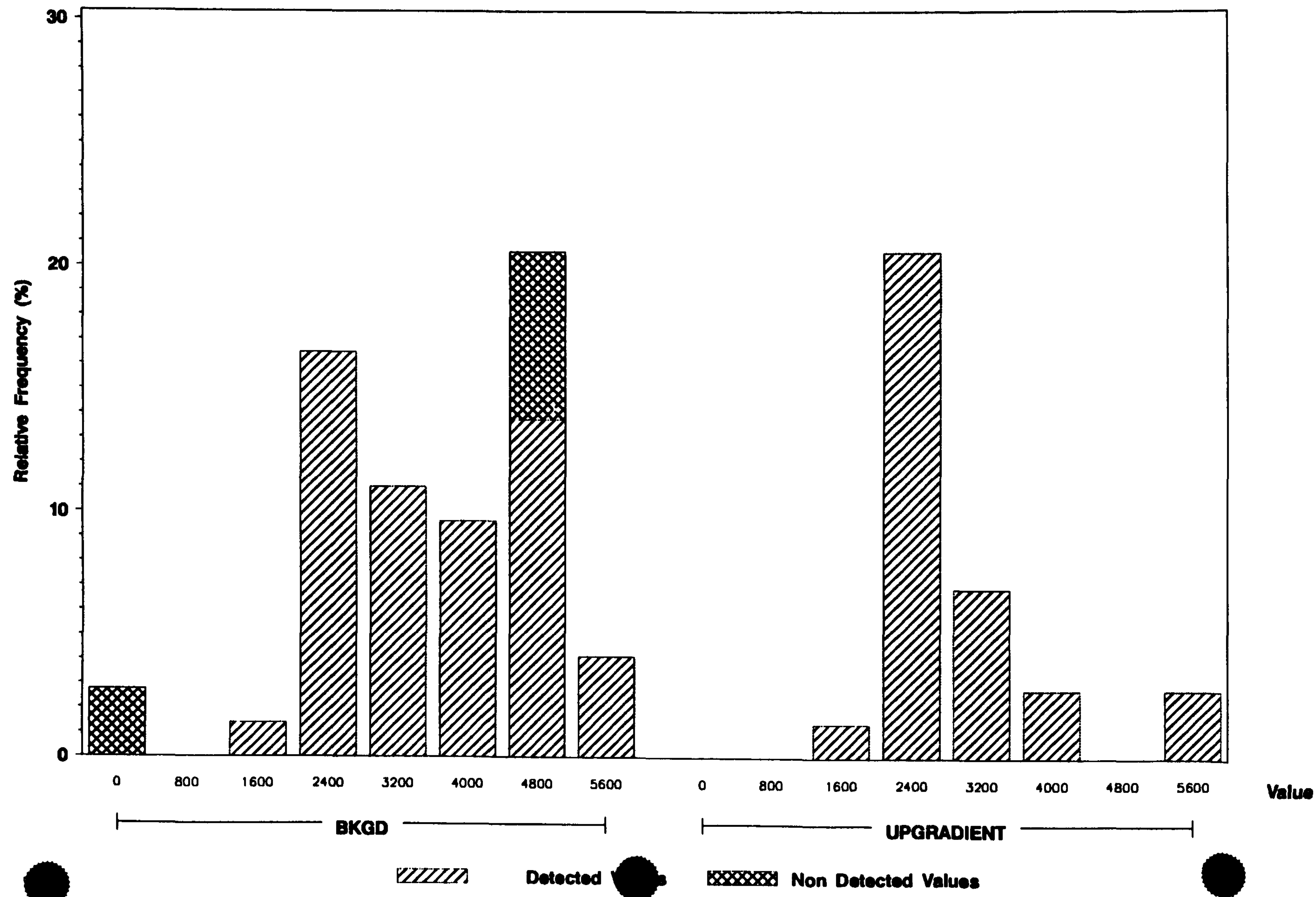
ANALYTE = MOLYBDENUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved POTASSIUM (ug/L) in Groundwater

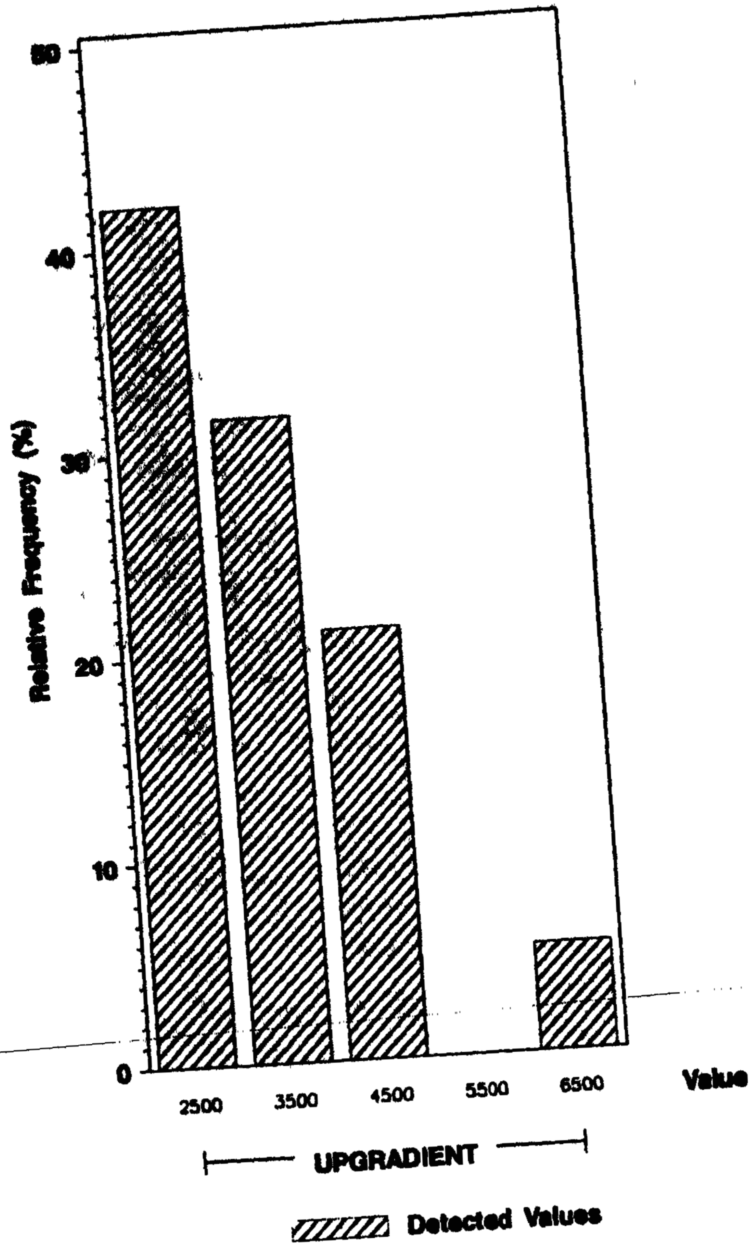
ANALYTE = POTASSIUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved SILICON (ug/L) in Groundwater

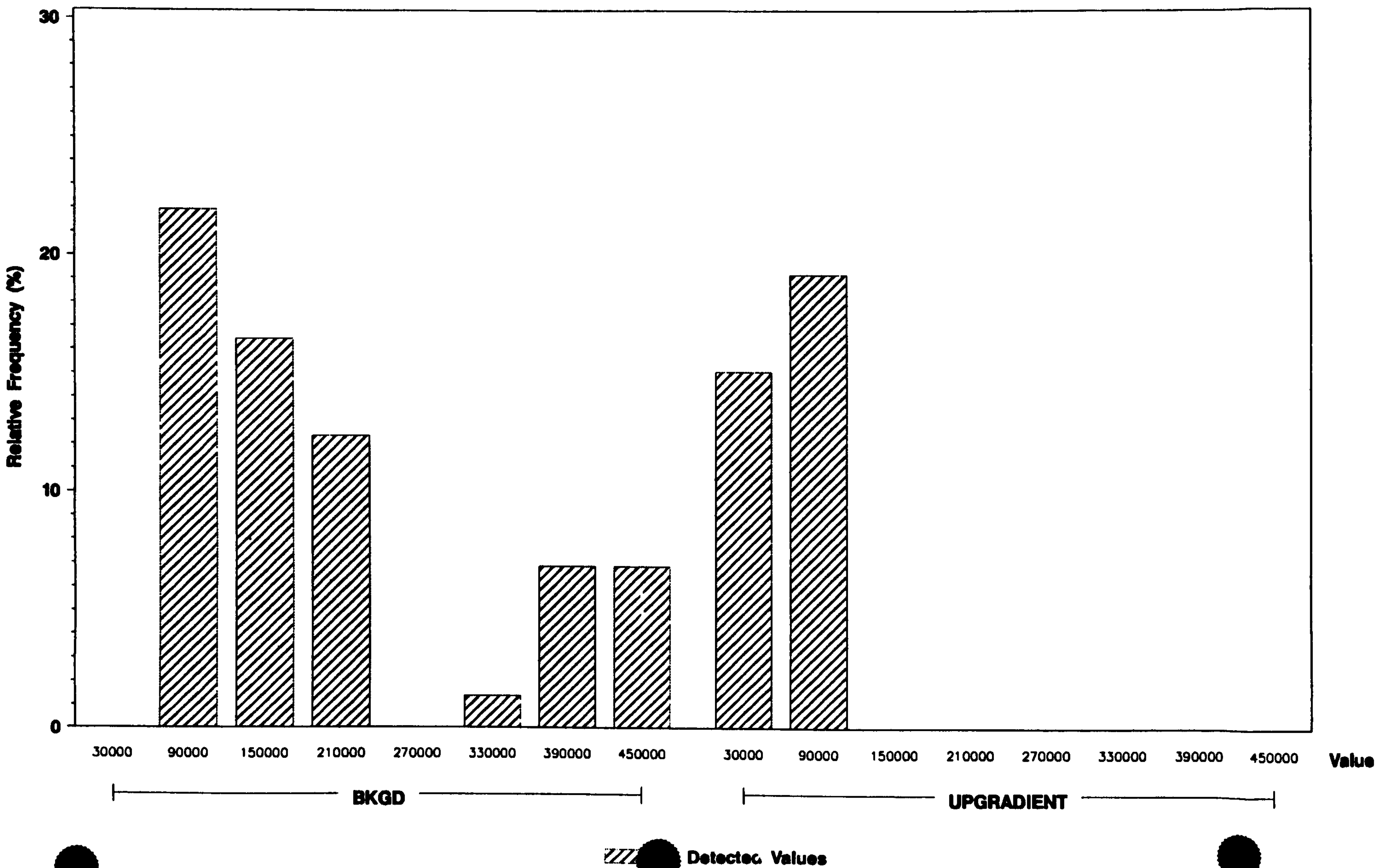
ANALYTE=SILICON



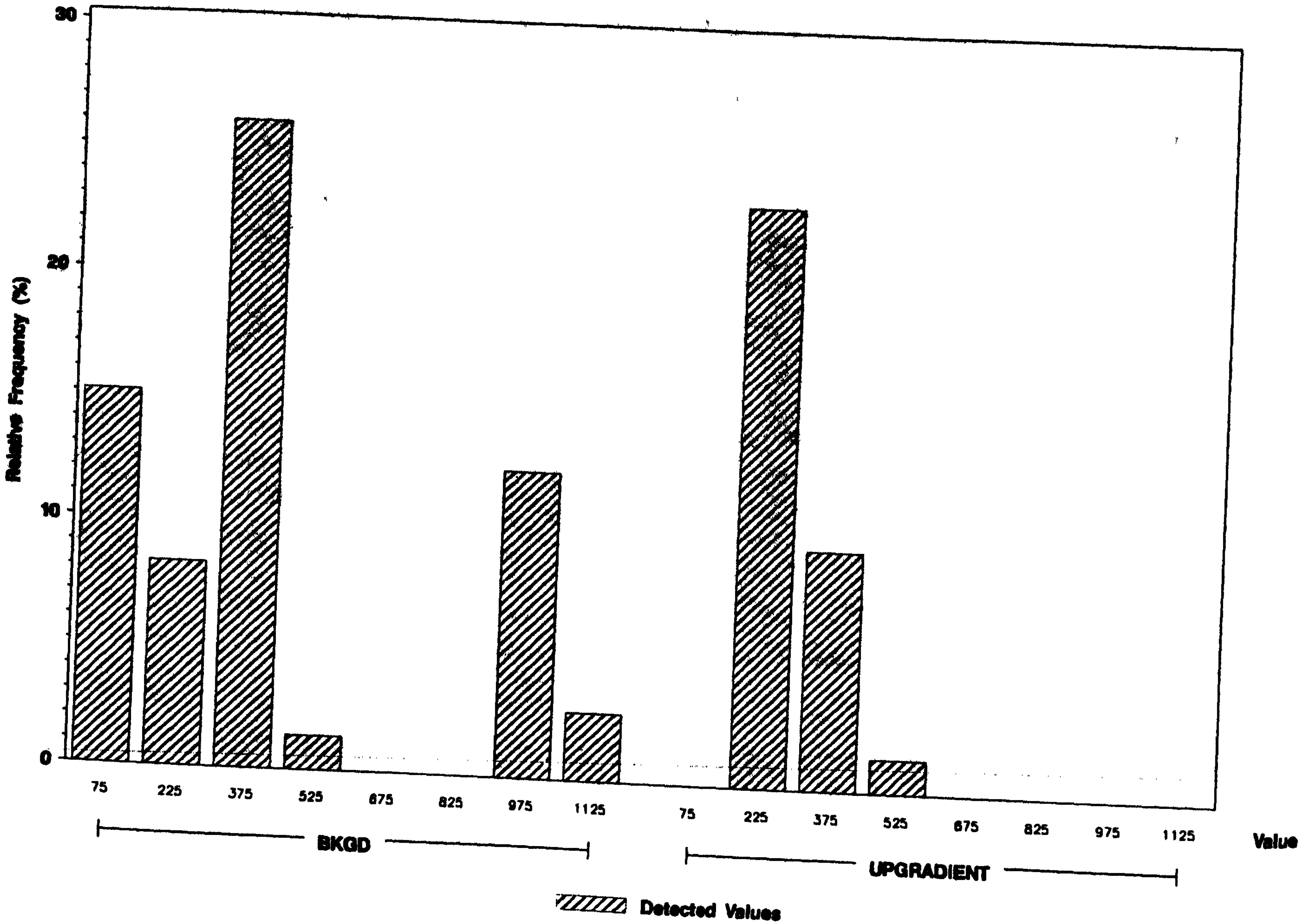
Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved SODIUM (ug/L) in Groundwater

ANALYTE=SODIUM



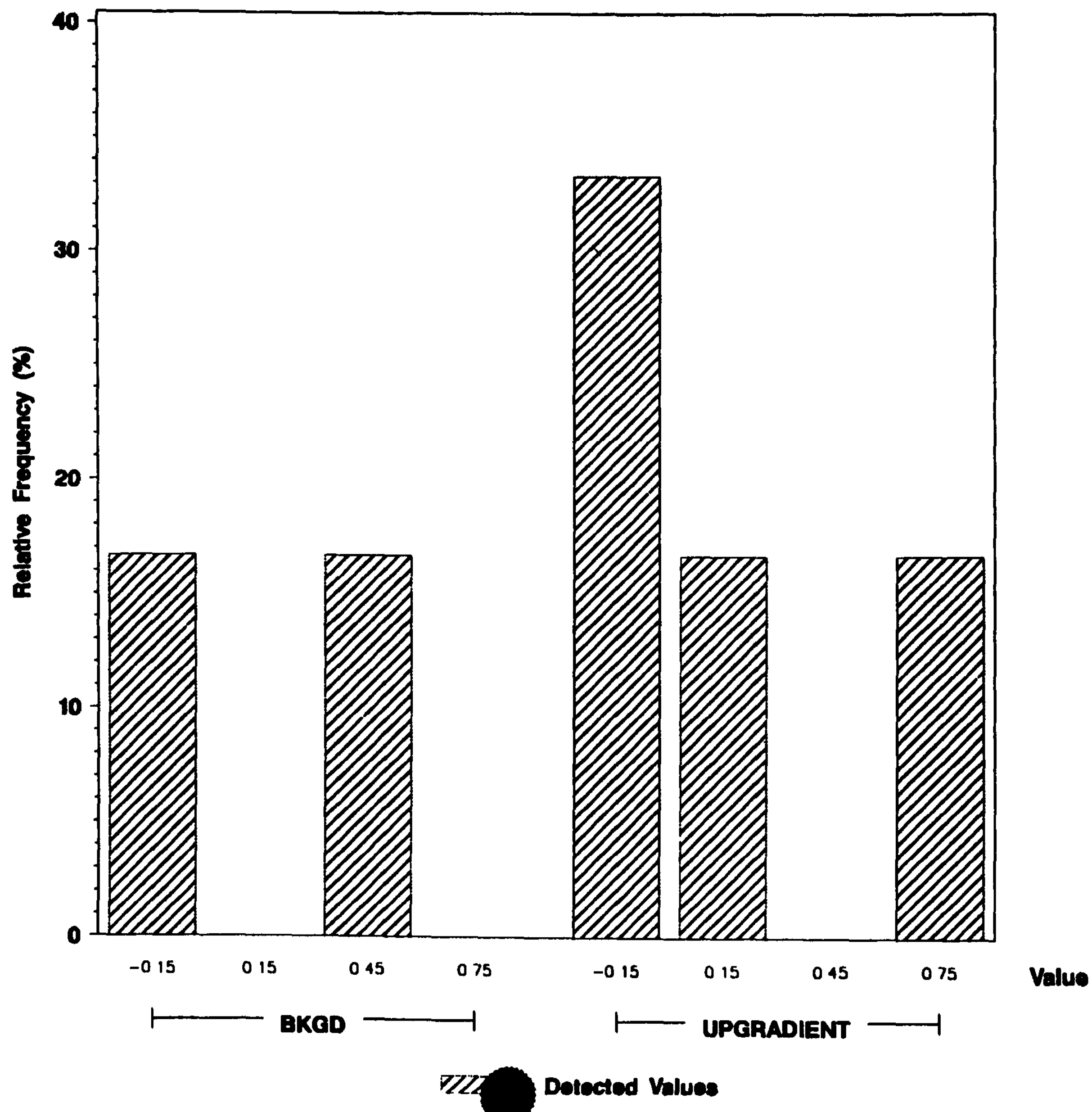
Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram
Dissolved STRONTIUM (ug/L) in Groundwater
ANALYTE=STRONTIUM



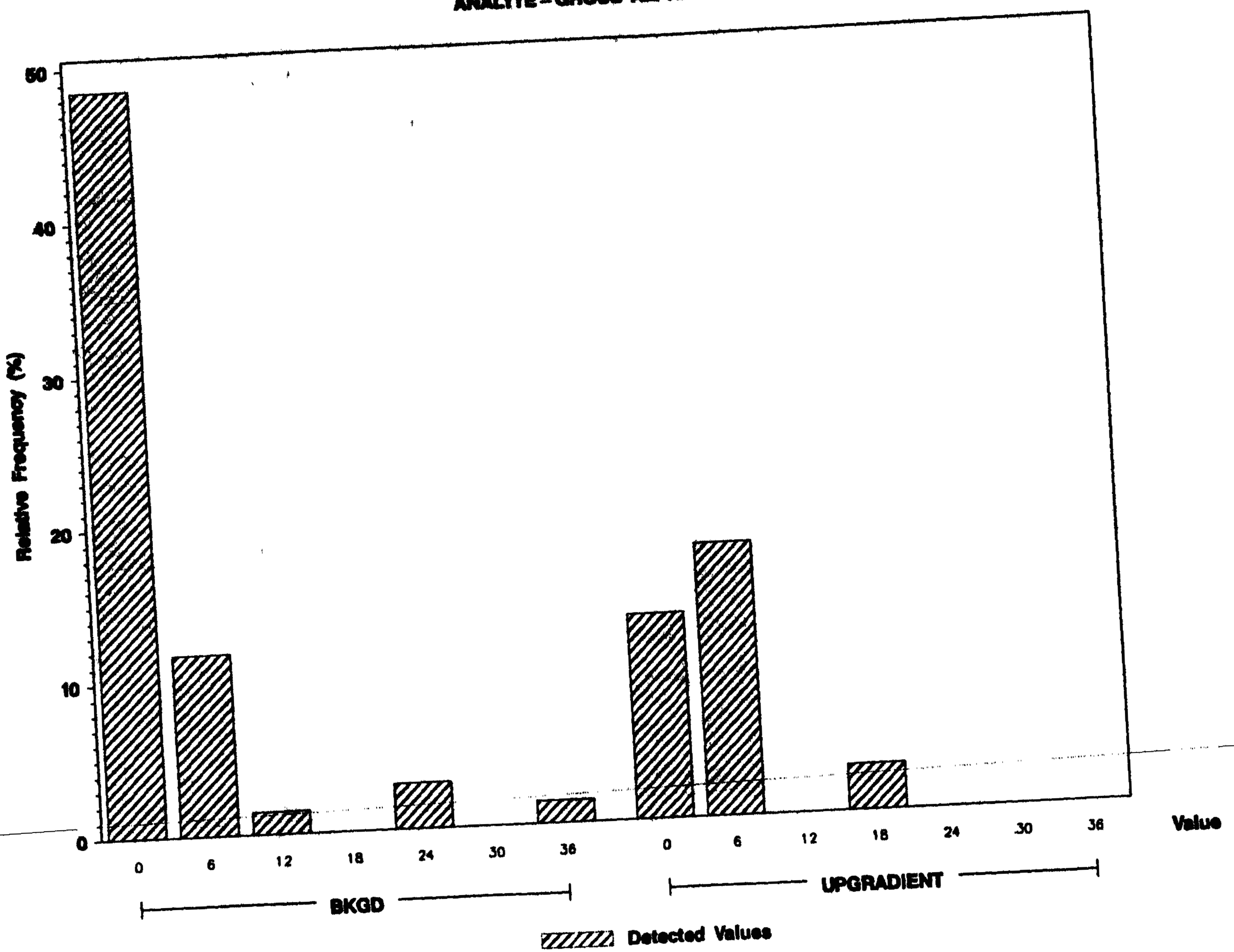
Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved CESIUM-137 (pCi/L) in Groundwater

ANALYTE=CESIUM-137



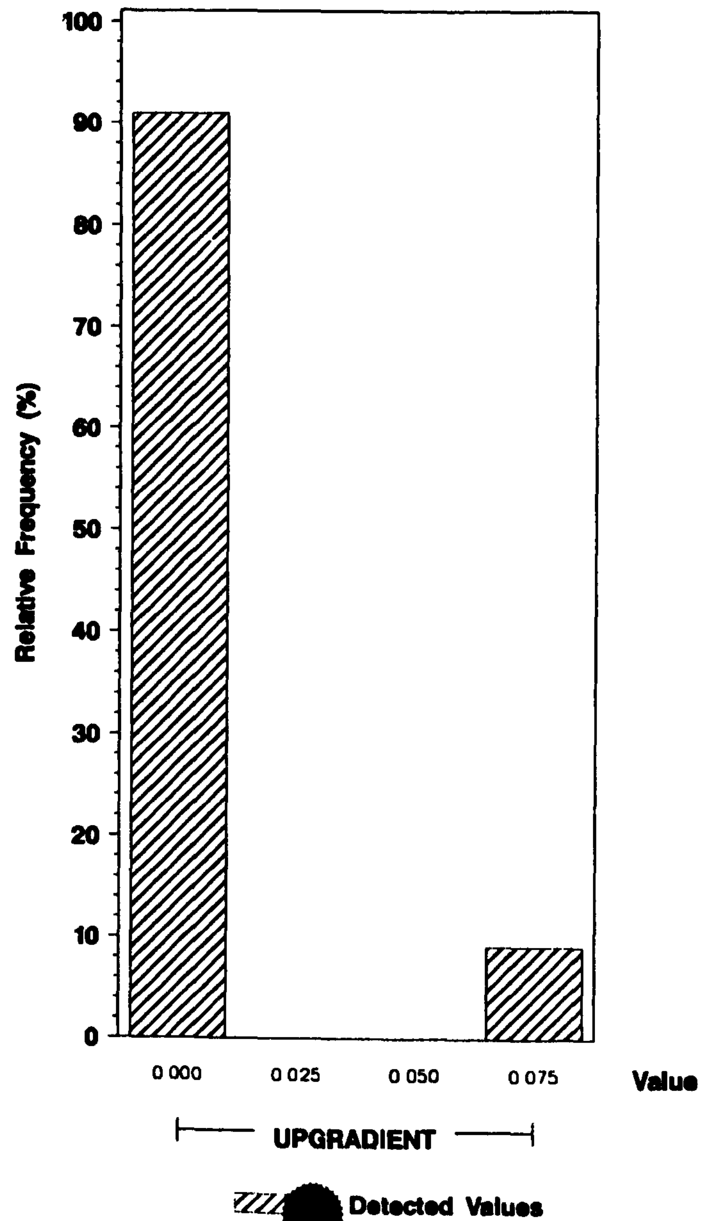
Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram
Dissolved GROSS ALPHA (pCi/L) in Groundwater
ANALYTE=GROSS ALPHA



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved AMERICIUM-241 (pCi/L) in Groundwater

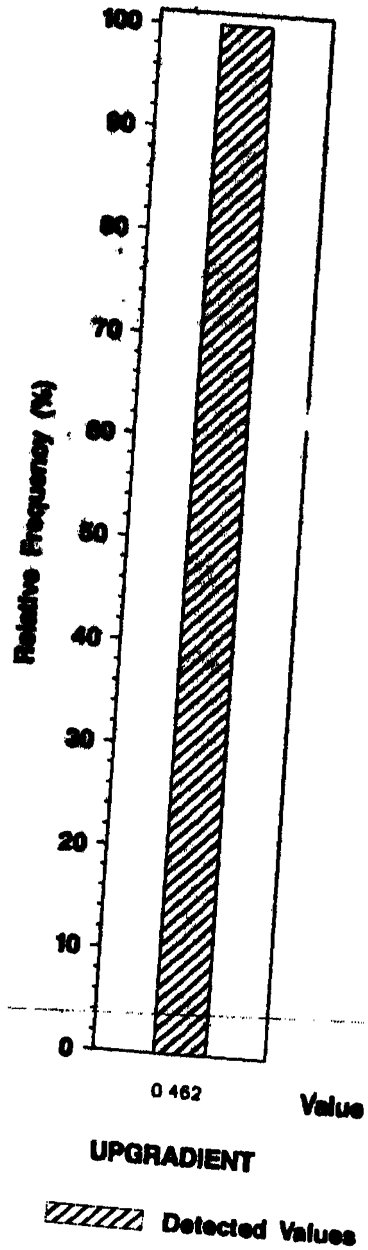
ANALYTE=AMERICIUM-241



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved CESIUM-134 (pCi/L) in Groundwater

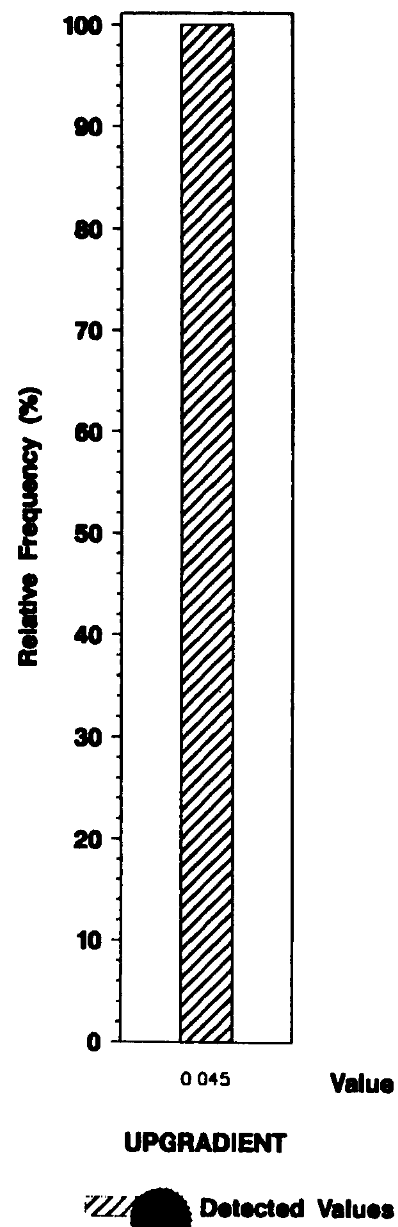
ANALYTE=CESIUM-134



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved PLUTONIUM-239 (pCi/L) in Groundwater

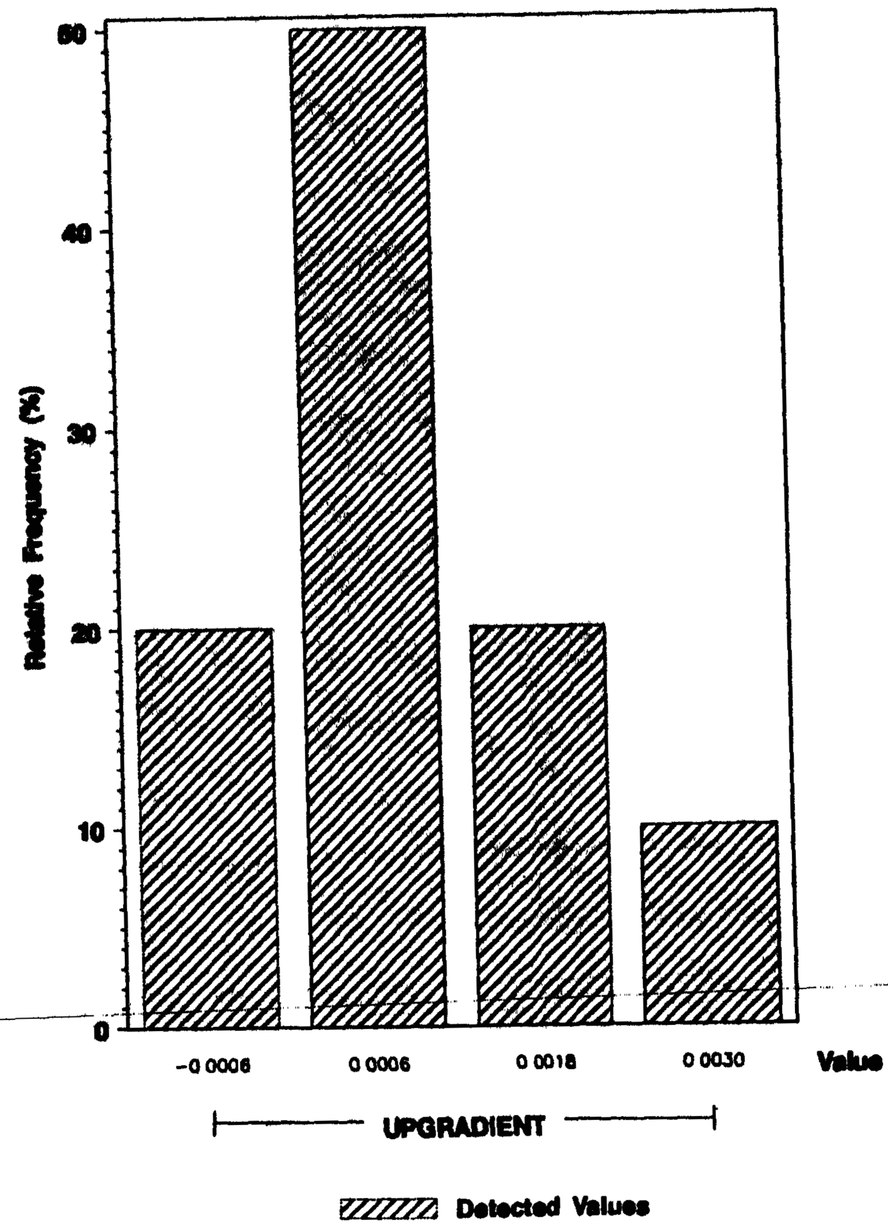
ANALYTE = PLUTONIUM-239



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved PLUTONIUM-239/240 (pCi/L) in Groundwater

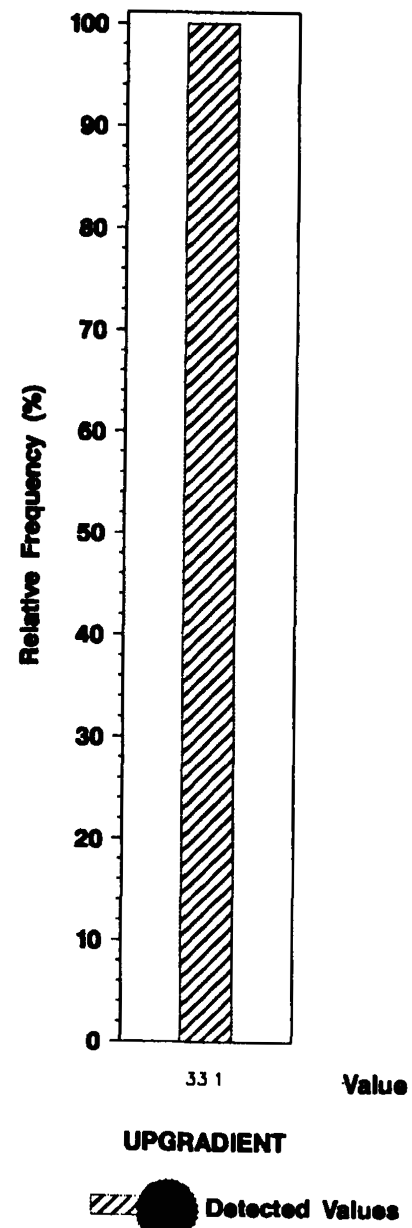
ANALYTE=PLUTONIUM-239/240



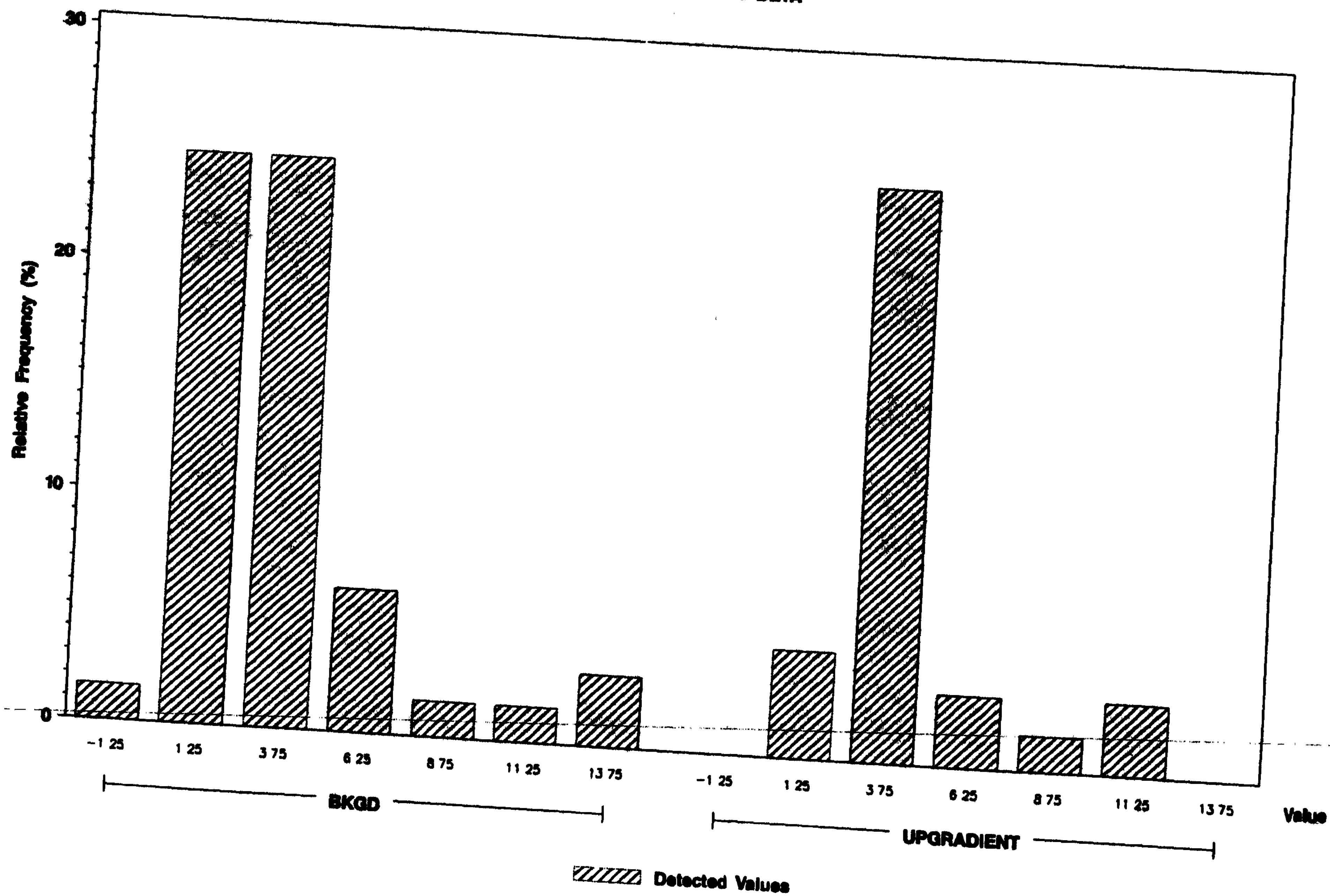
Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved GROSS ALPHA – SUSPENDED (pCi/L) in Groundwater

ANALYTE=GROSS ALPHA – SUSPENDED



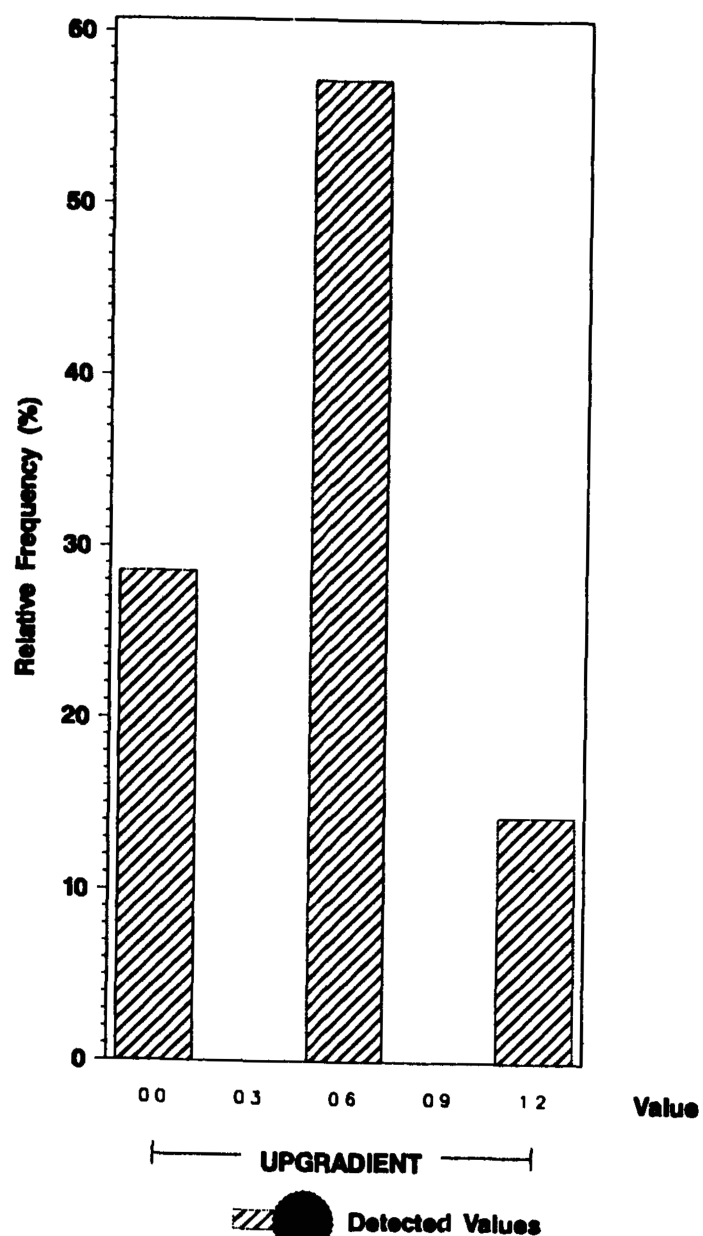
Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram
Dissolved GROSS BETA (pCi/L) in Groundwater
ANALYTE=GROSS BETA



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

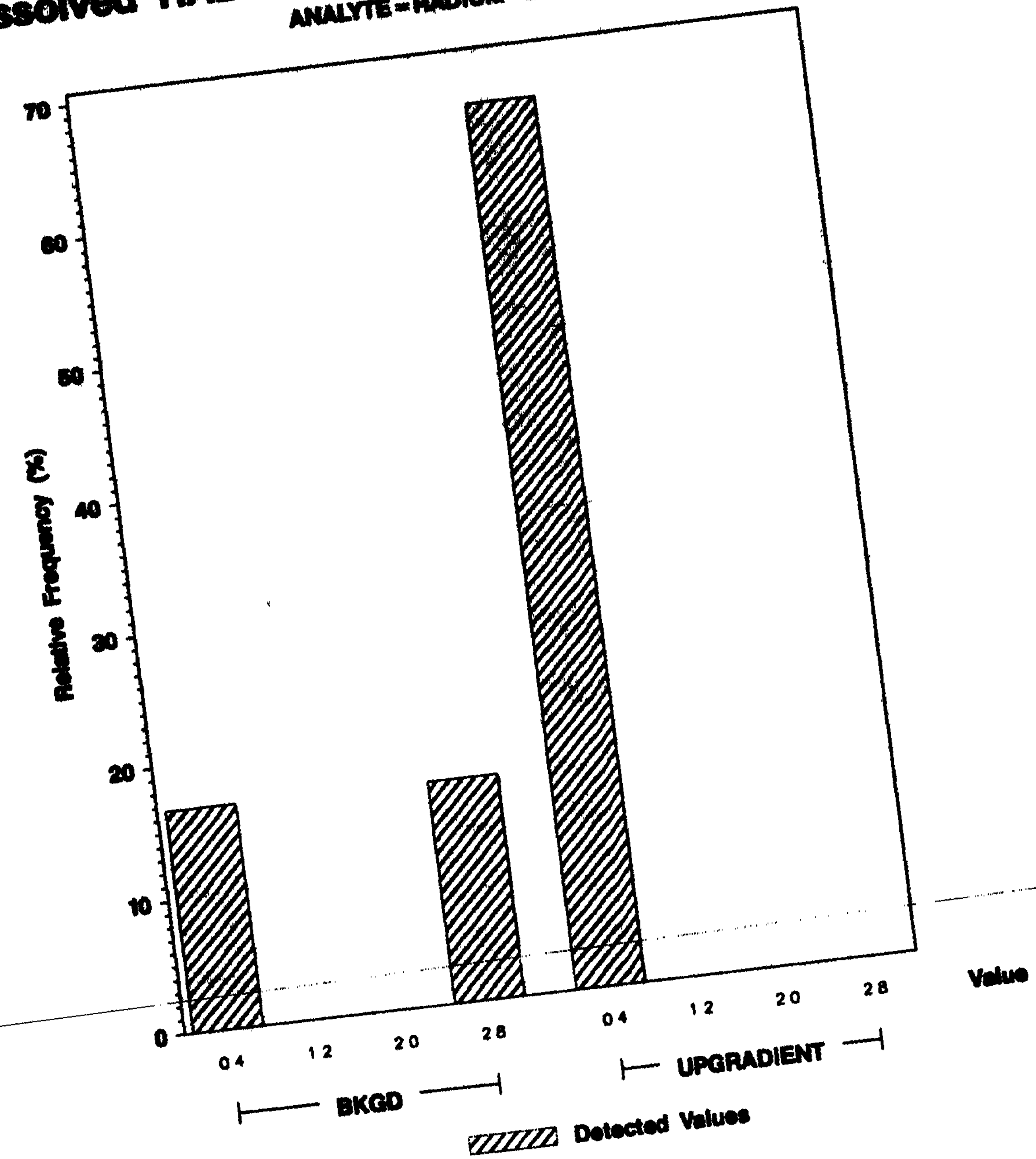
Dissolved RADIOCESIUM (pCi/L) in Groundwater

ANALYTE = RADIOCESIUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram
Dissolved RADIUM-226 (pCi/L) in Groundwater

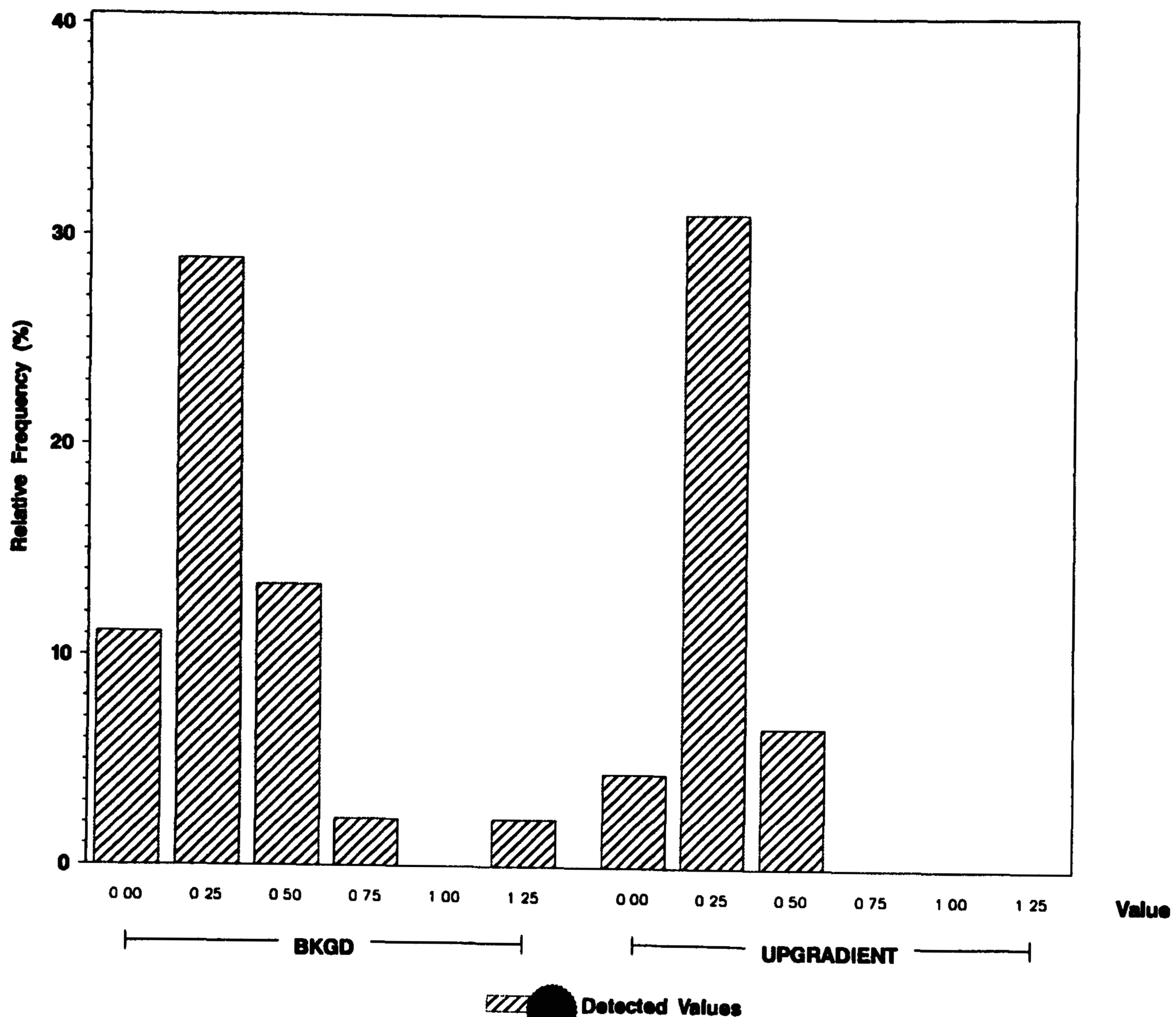
ANALYTE=RADIUM-226



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved STRONTIUM – 89,90 (pCi/L) in Groundwater

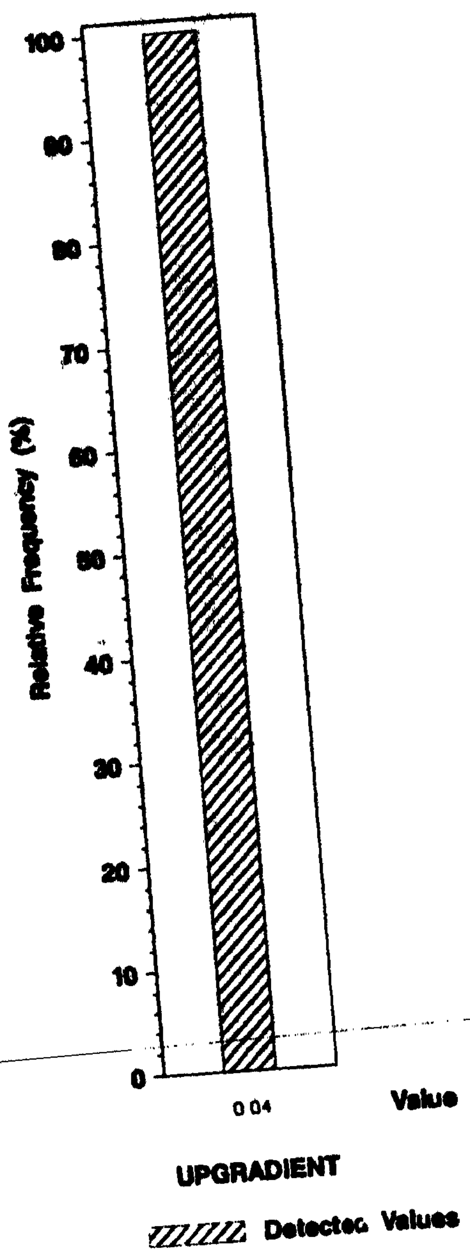
ANALYTE = STRONTIUM – 89,90



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved STRONTIUM-90 (pCi/L) in Groundwater

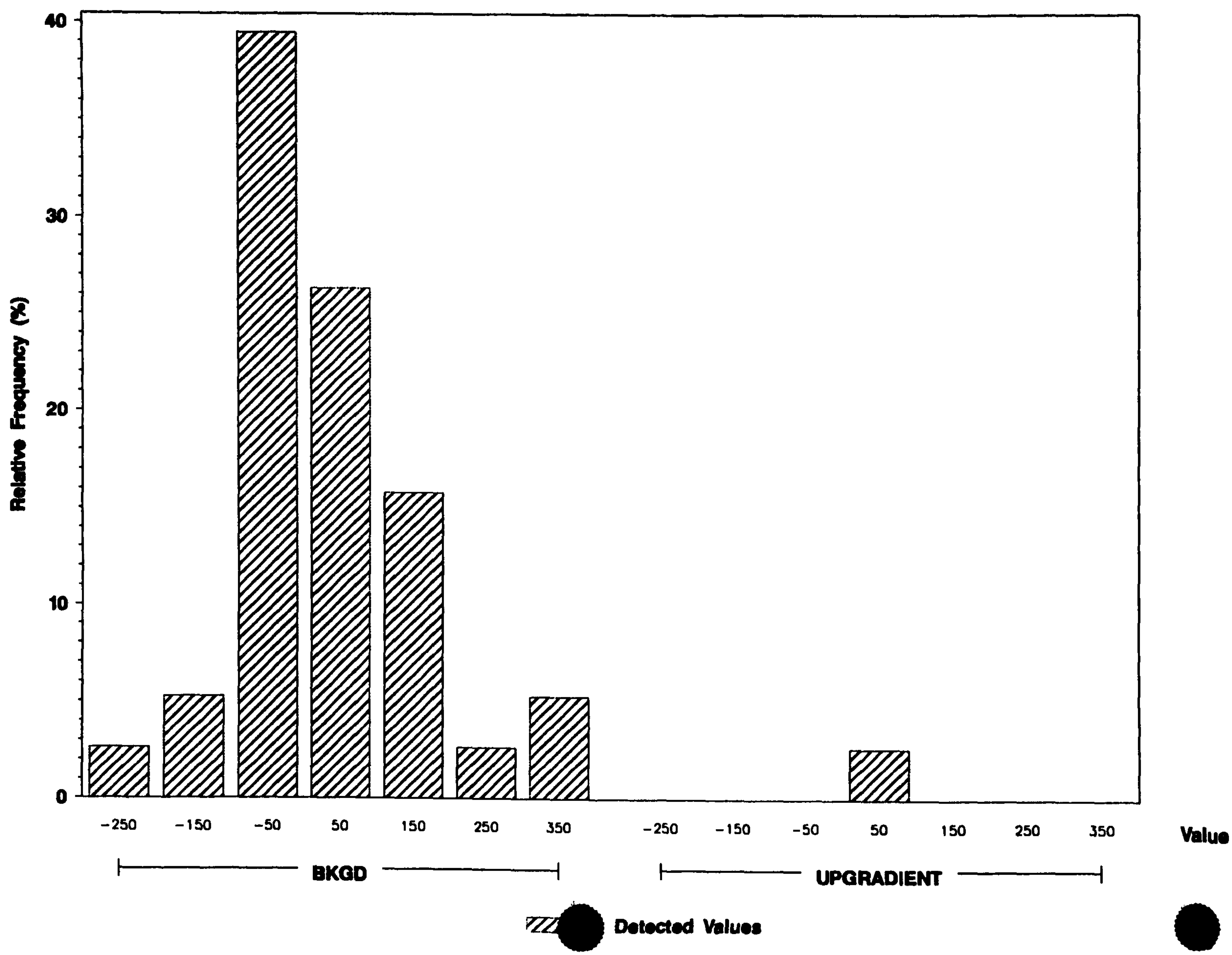
ANALYTE=STRONTIUM-90



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved TRITIUM (pCi/L) in Groundwater

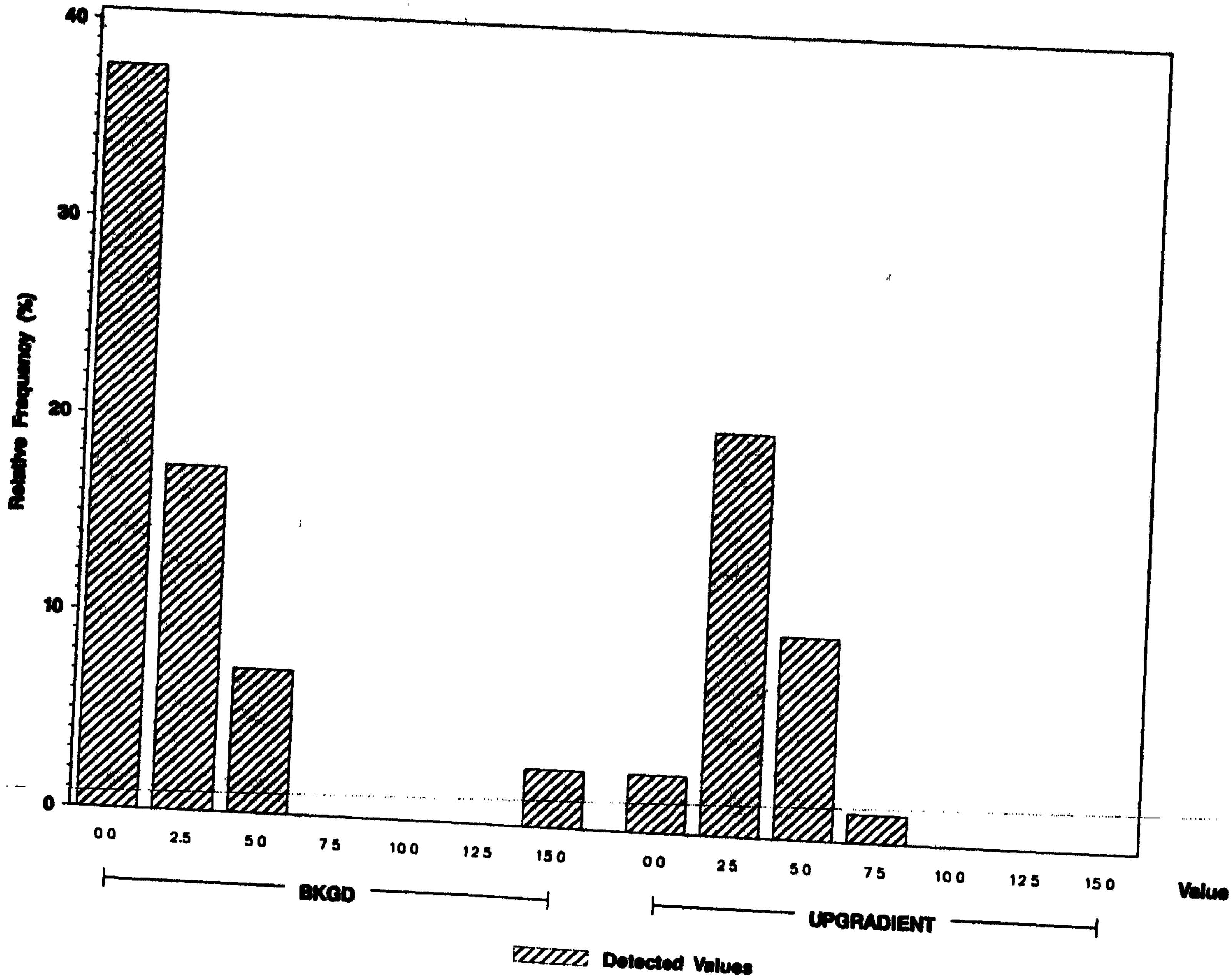
ANALYTE=TRITIUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved URANIUM-233, -234 (pCi/L) in Groundwater

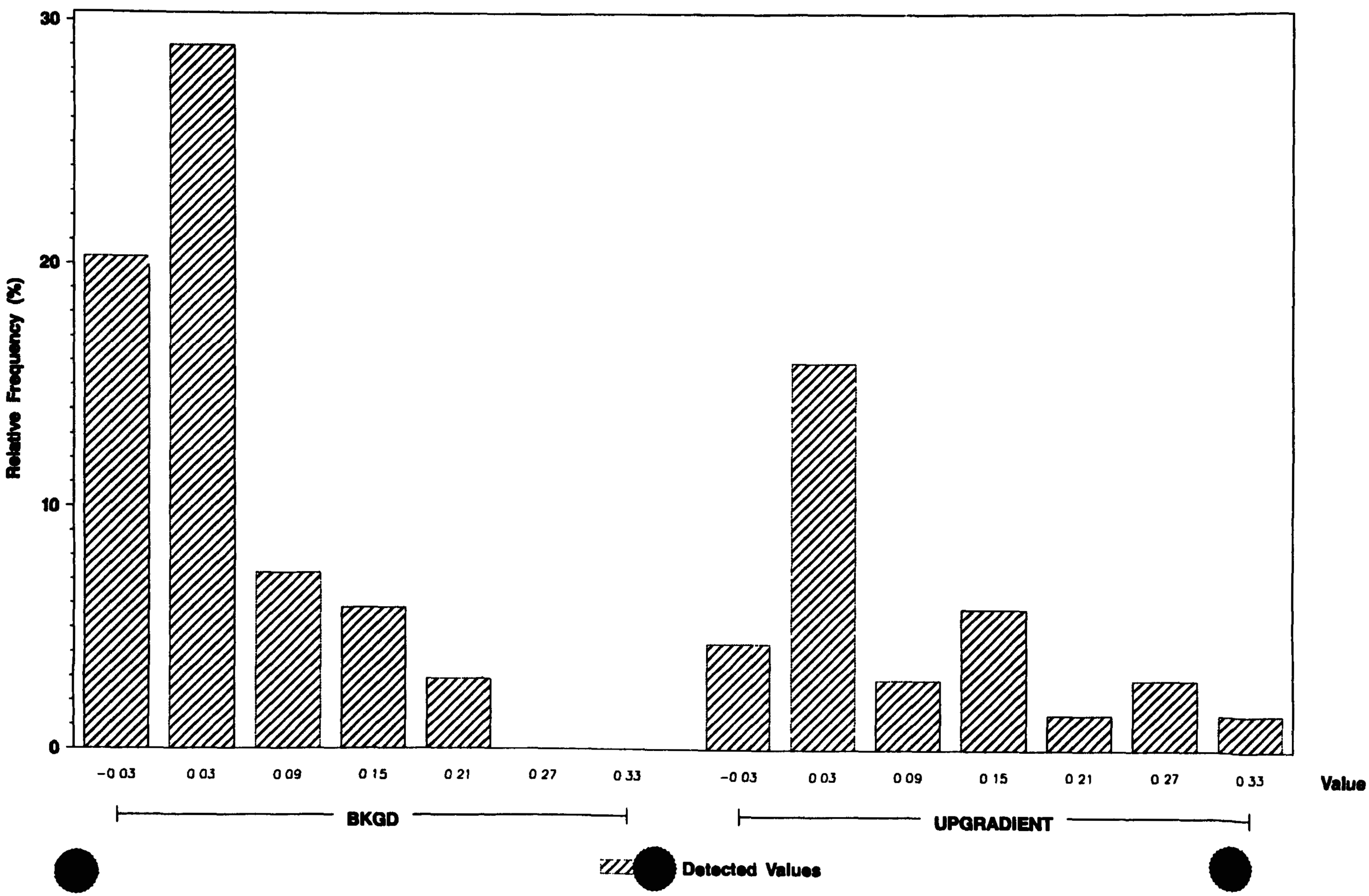
ANALYTE=URANIUM-233, -234



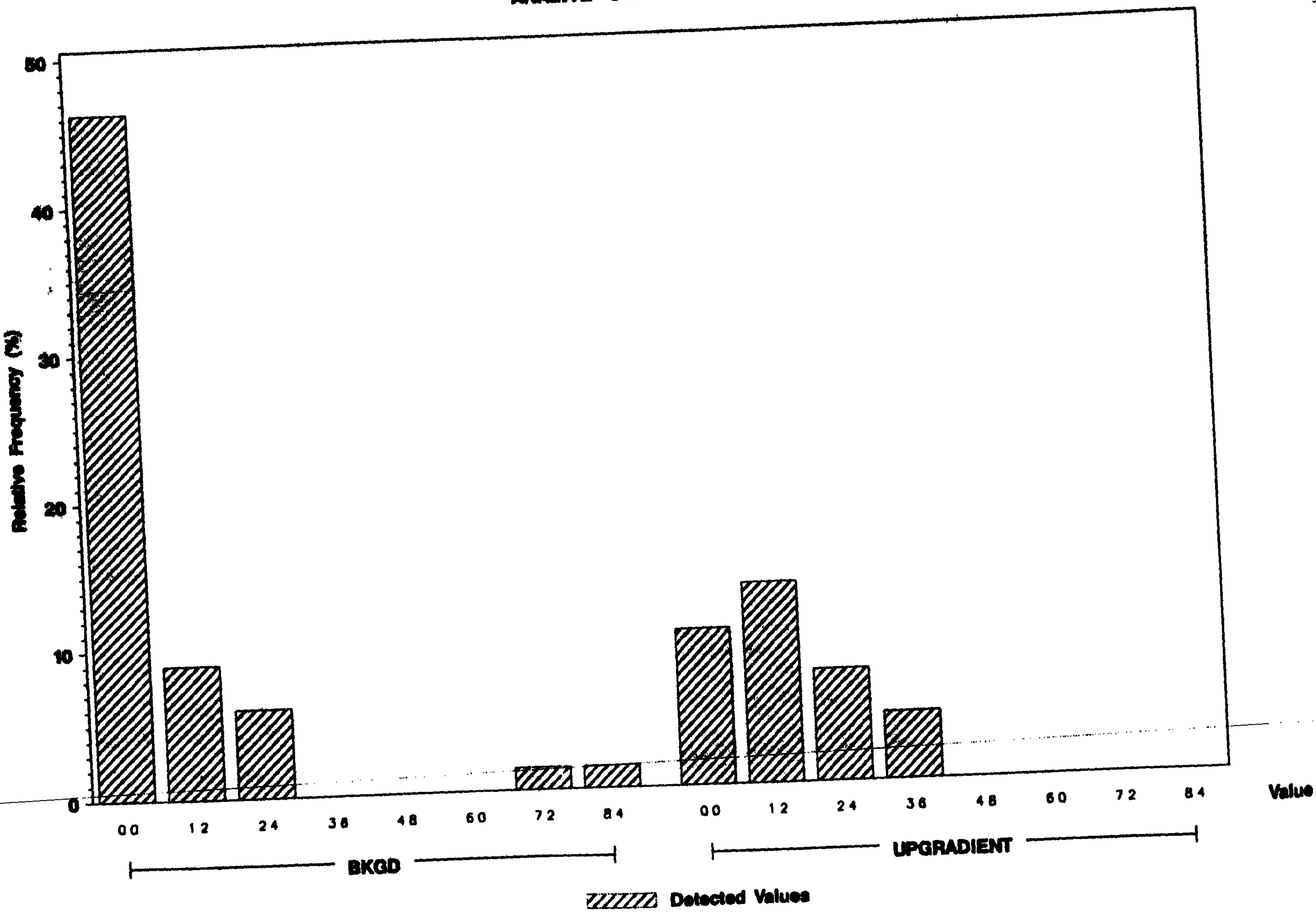
Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Dissolved URANIUM-235 (pCi/L) in Groundwater

ANALYTE=URANIUM-235



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram
Dissolved URANIUM – 238 (pCi/L) in Groundwater
ANALYTE = URANIUM – 238



Groundwater

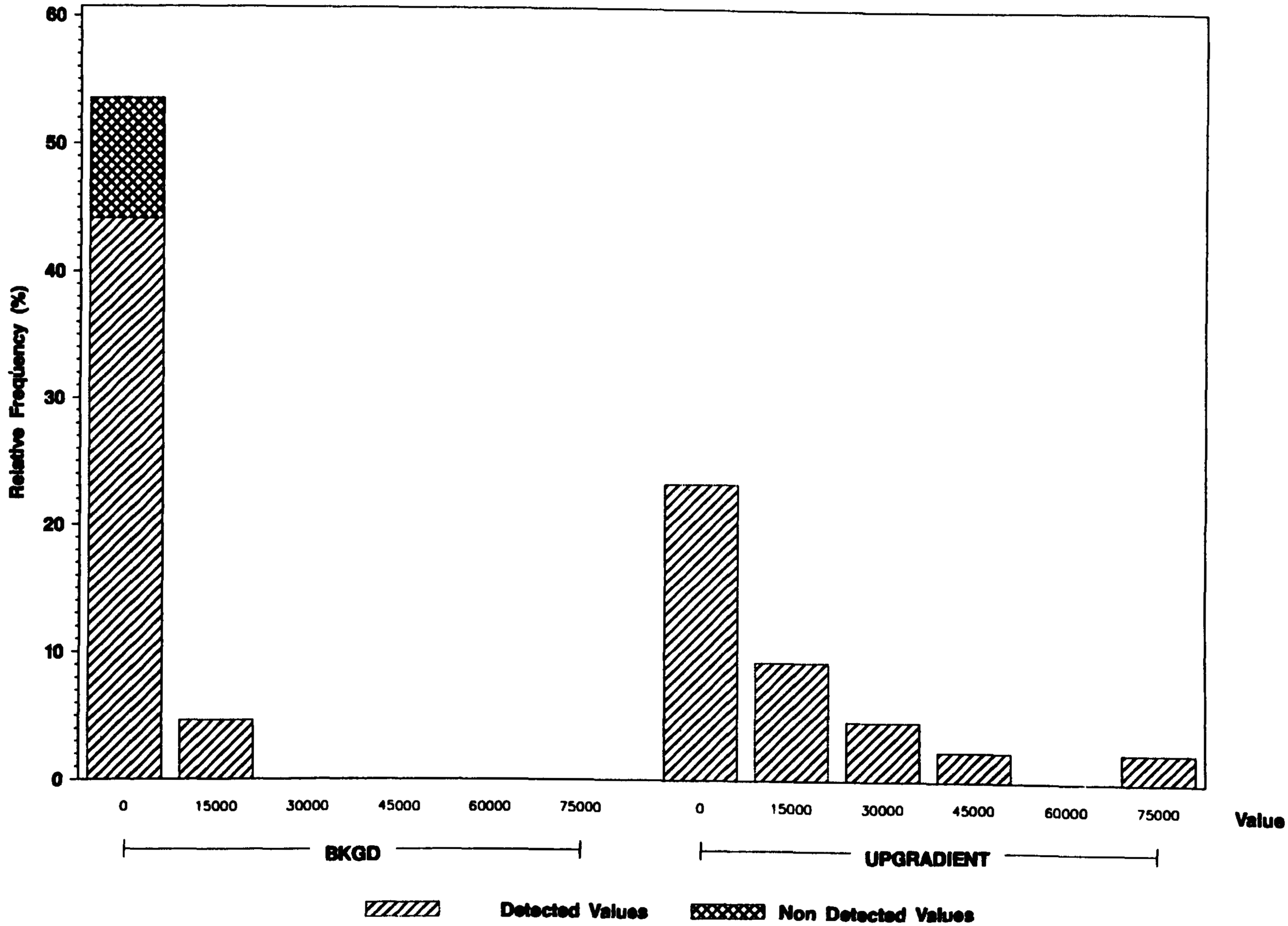
(Total)

Background vs. OU 7 Upgradient LHSU

Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total ALUMINUM (ug/L) in Groundwater

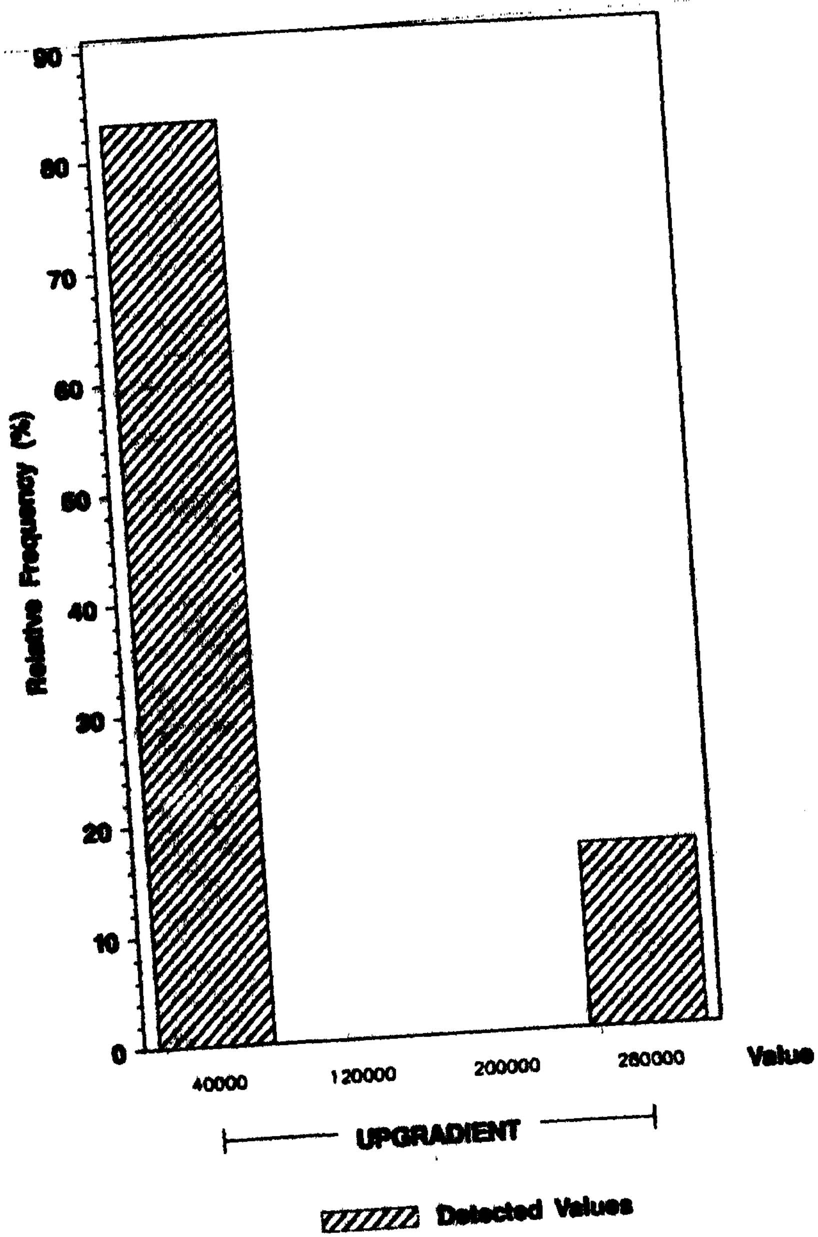
ANALYTE = ALUMINUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total AMMONIA (ug/L) in Groundwater

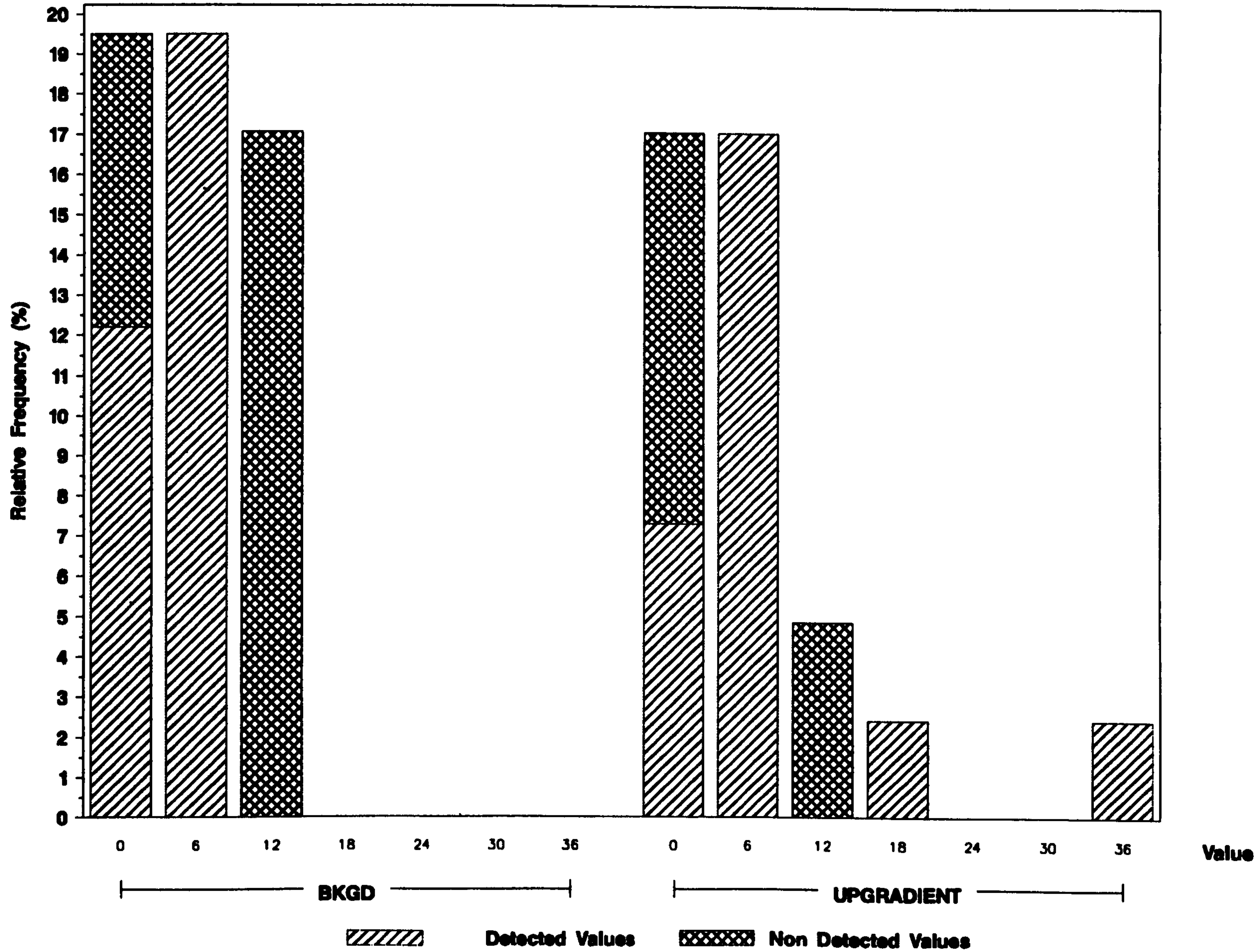
ANALYTE=AMMONIA



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total ARSENIC (ug/L) in Groundwater

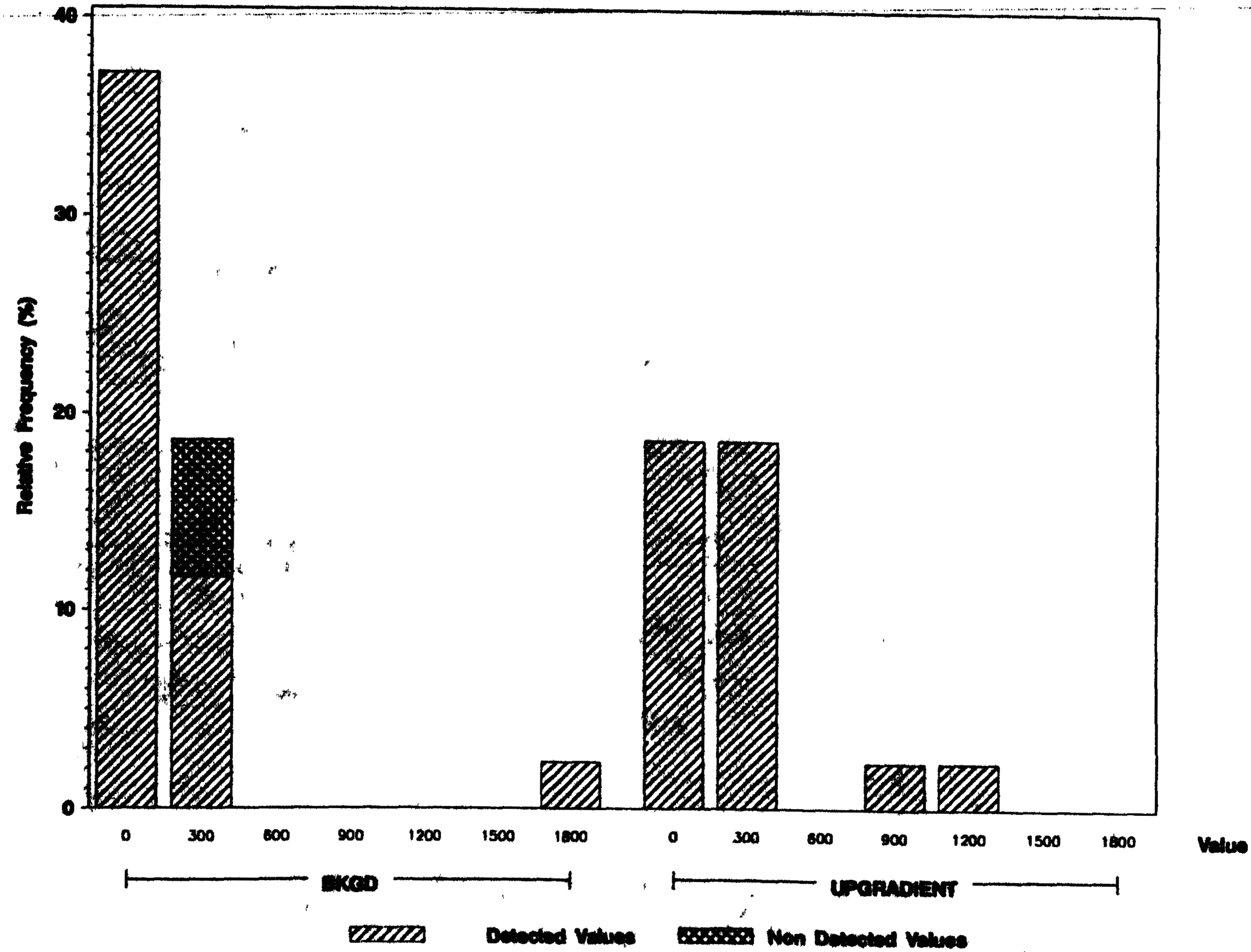
ANALYTE=ARSENIC



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total BARIUM (ug/L) in Groundwater

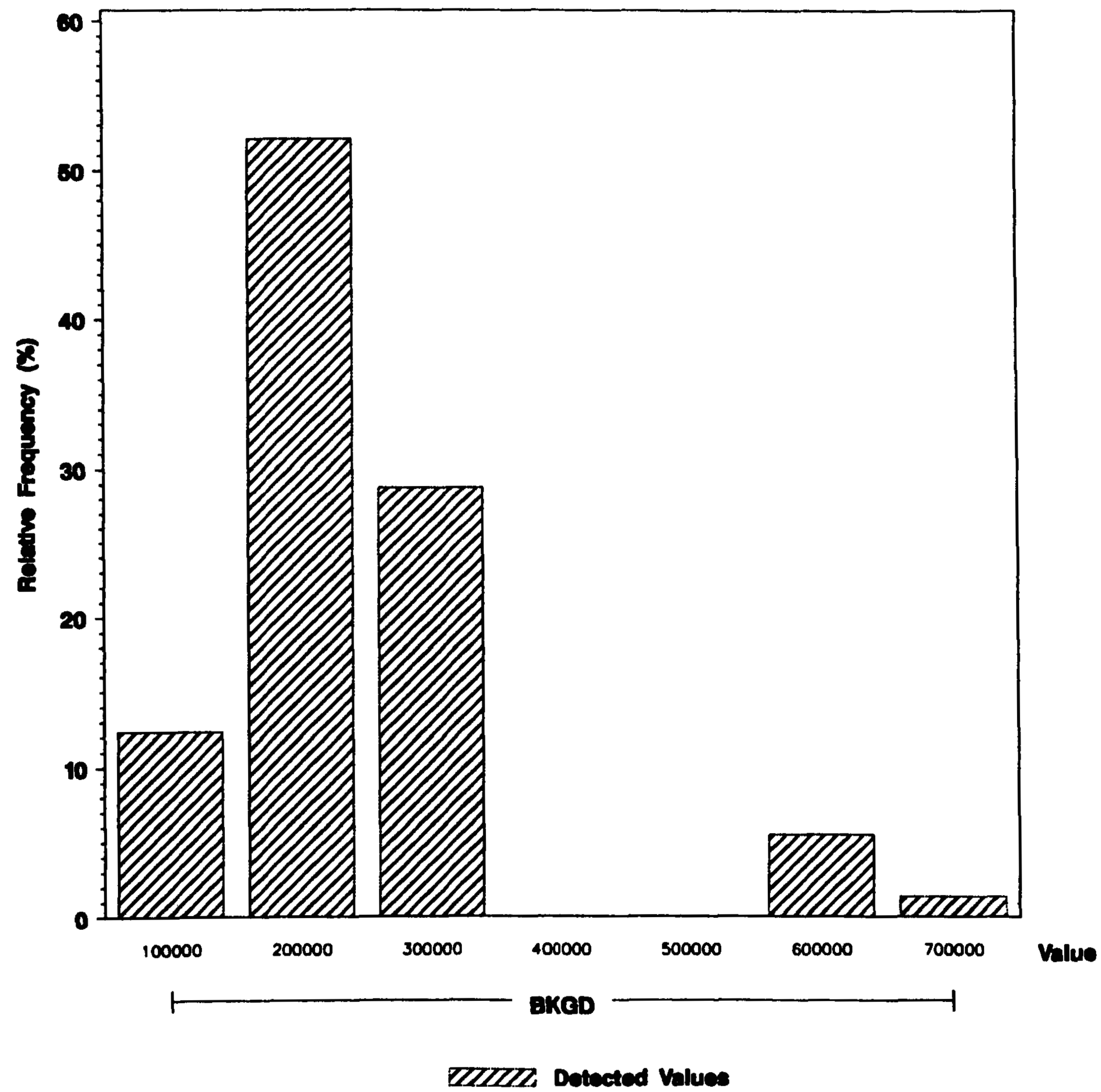
ANALYTE=BARIUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total BICARBONATE (ug/L) in Groundwater

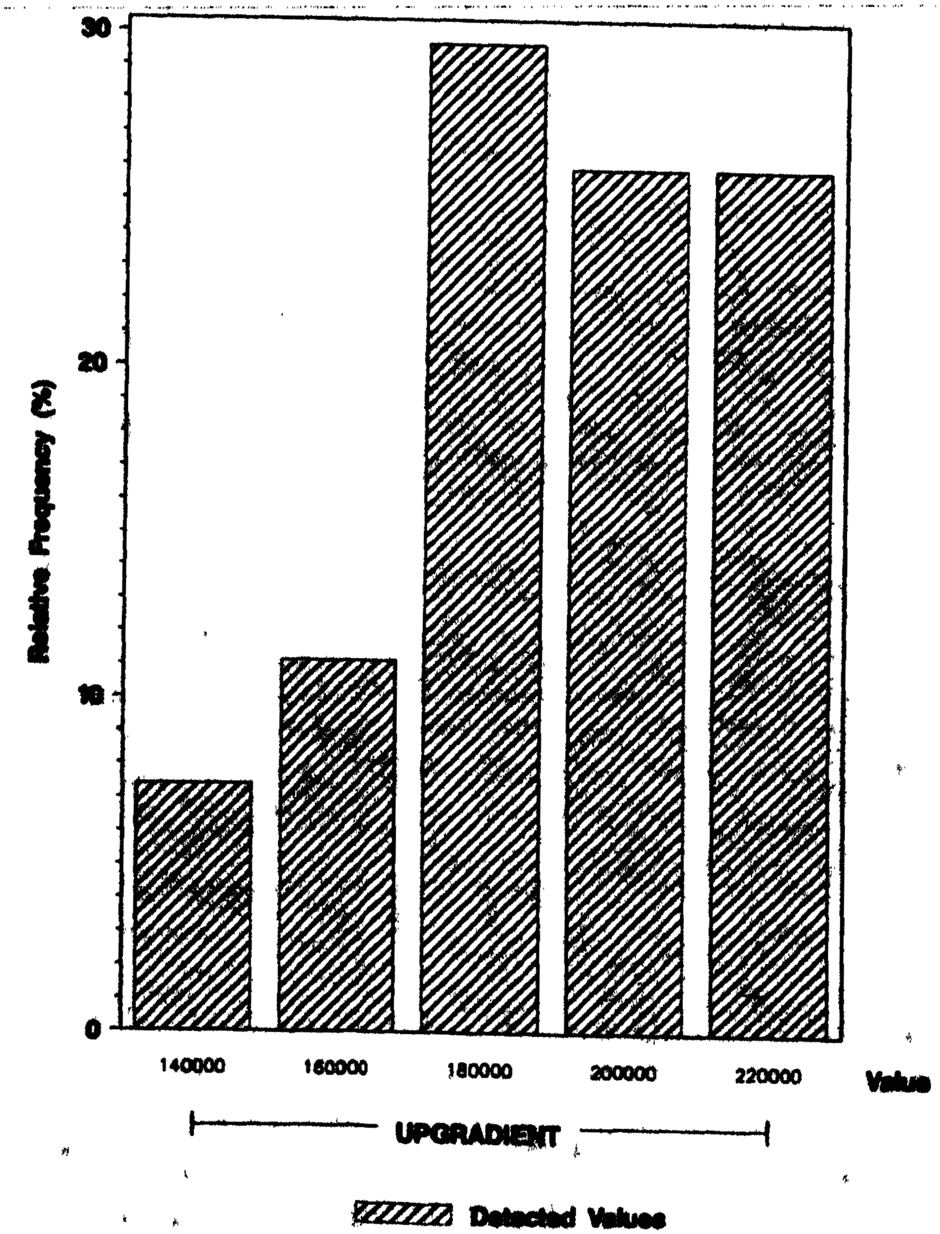
ANALYTE=BICARBONATE



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total BICARBONATE AS CACO3 (ug/L) in Groundwater

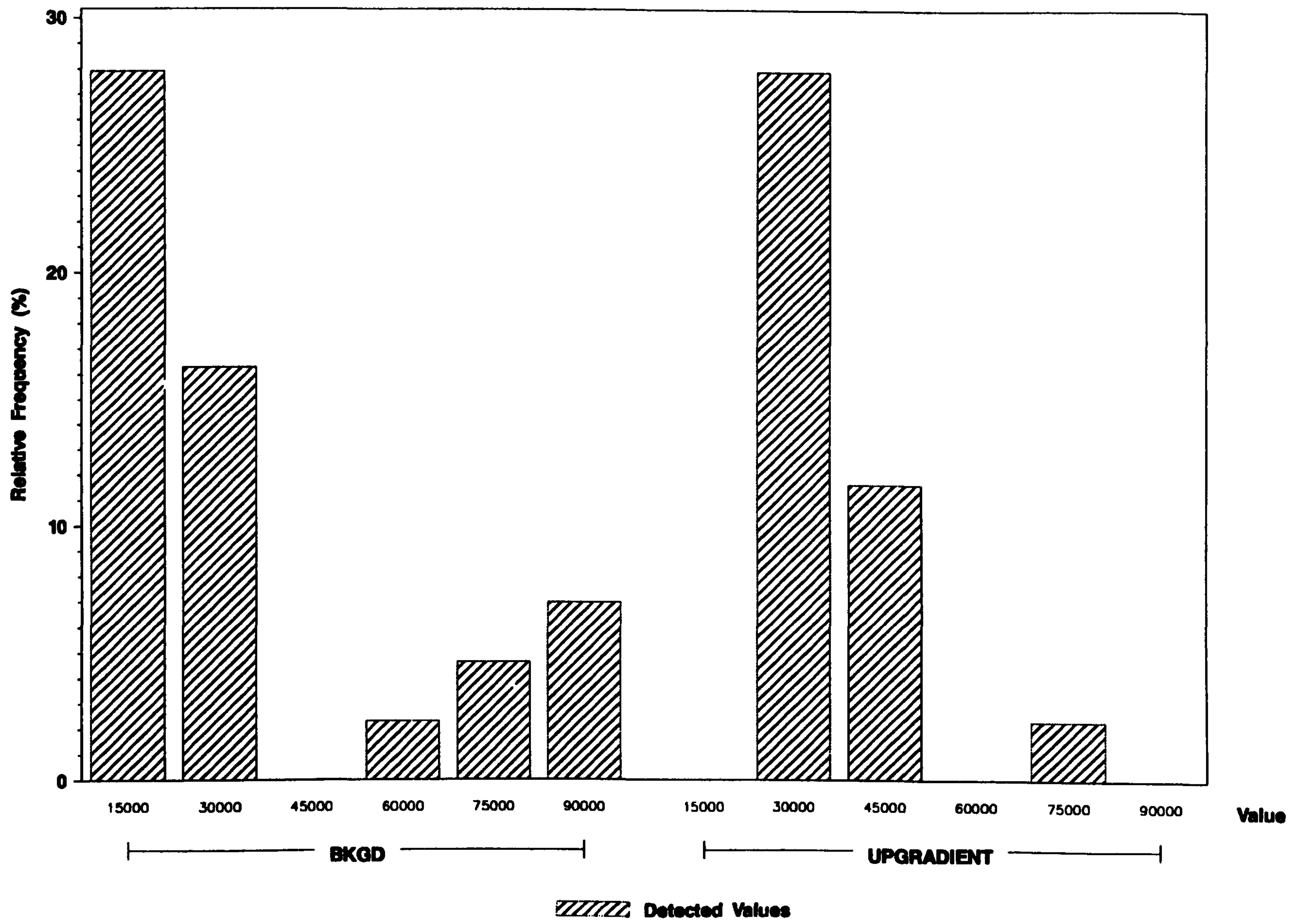
ANALYTE=BICARBONATE AS CACO3



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total CALCIUM (ug/L) in Groundwater

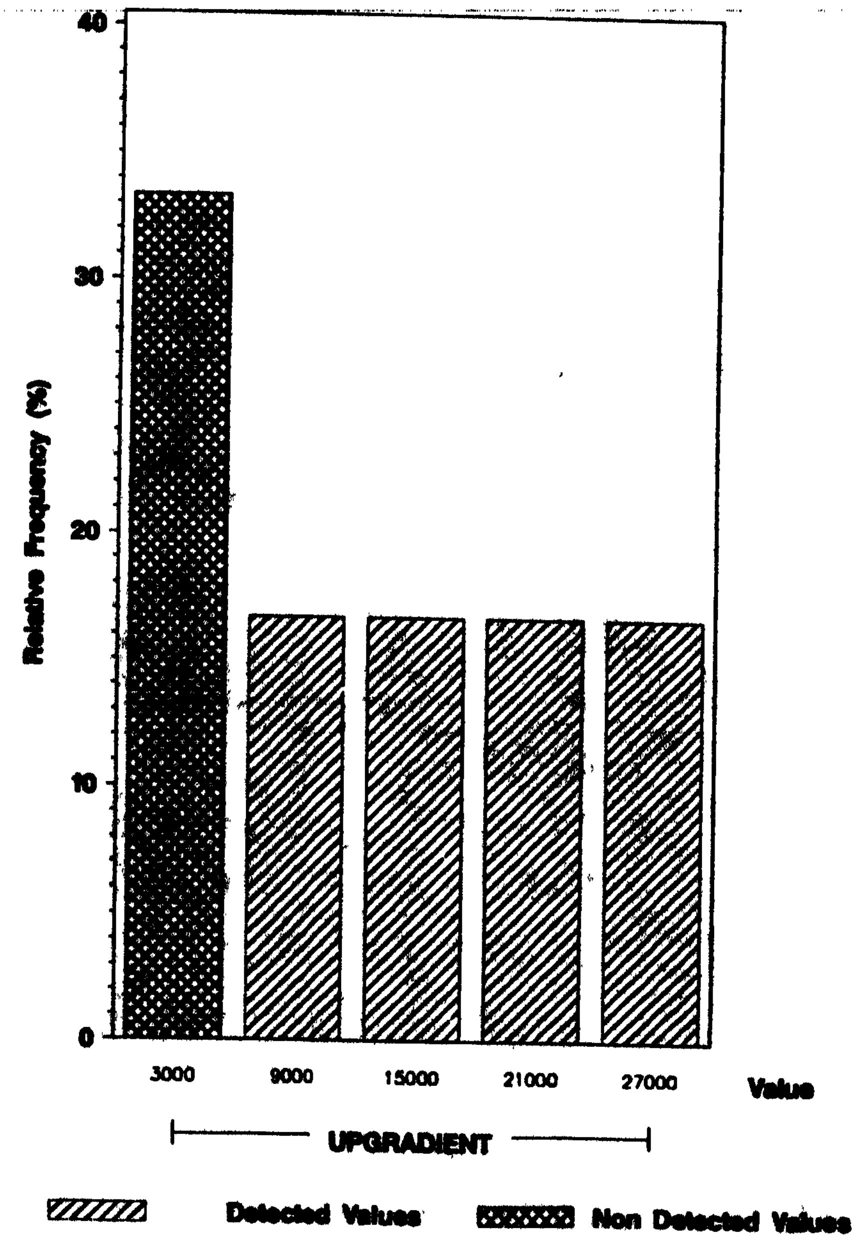
ANALYTE=CALCIUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total CHEMICAL OXYGEN DEMAND (ug/L) in Groundwater

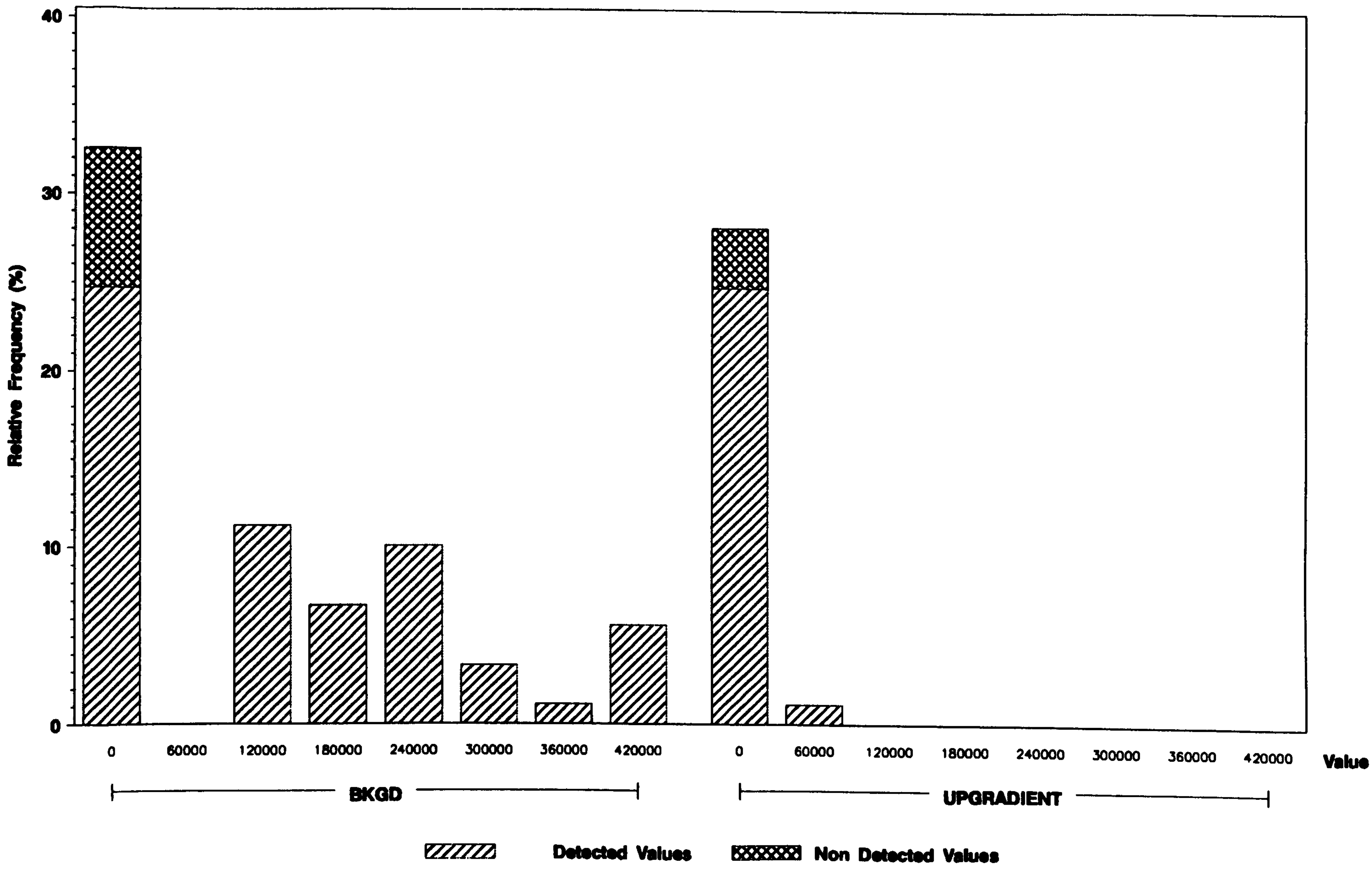
ANALYTE=CHEMICAL OXYGEN DEMAND



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total CHLORIDE (ug/L) in Groundwater

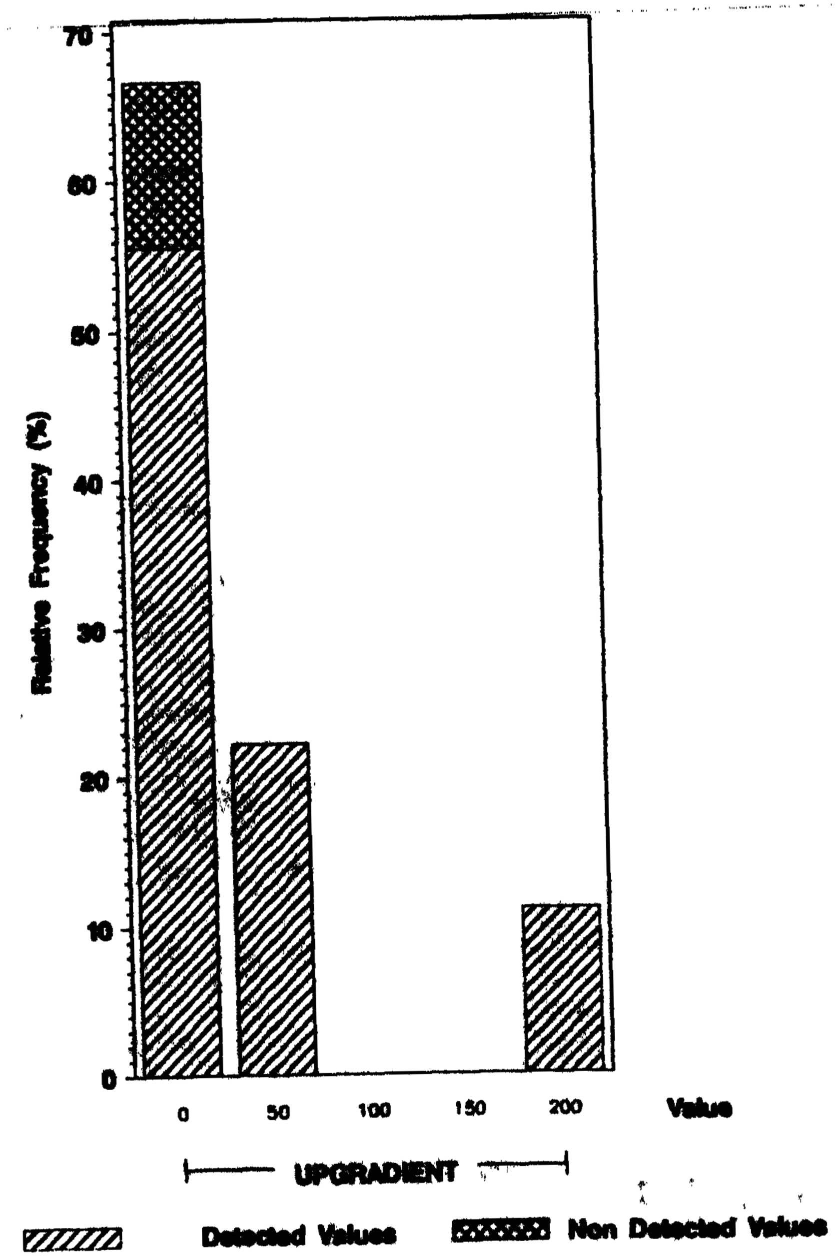
ANALYTE=CHLORIDE



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total CHROMIUM (ug/L) in Groundwater

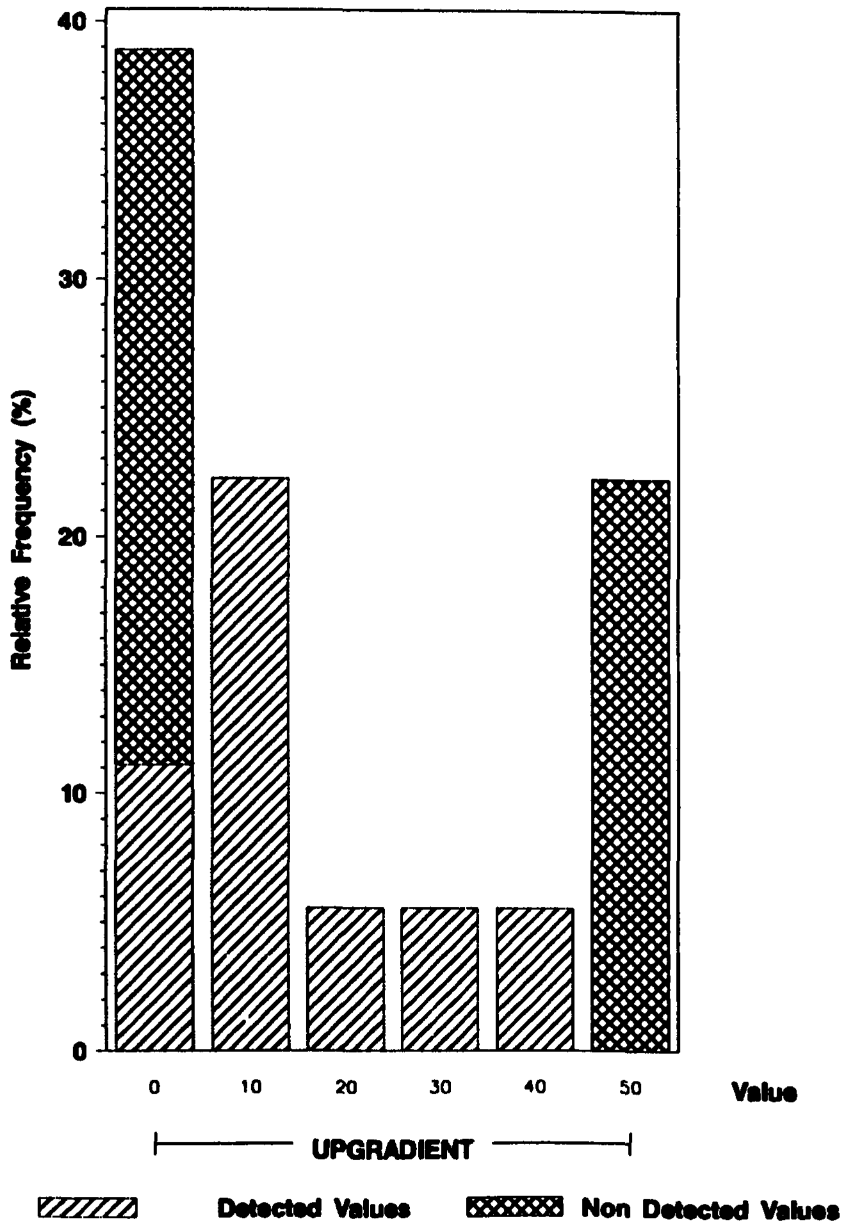
ANALYTE = CHROMIUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total COBALT (ug/L) in Groundwater

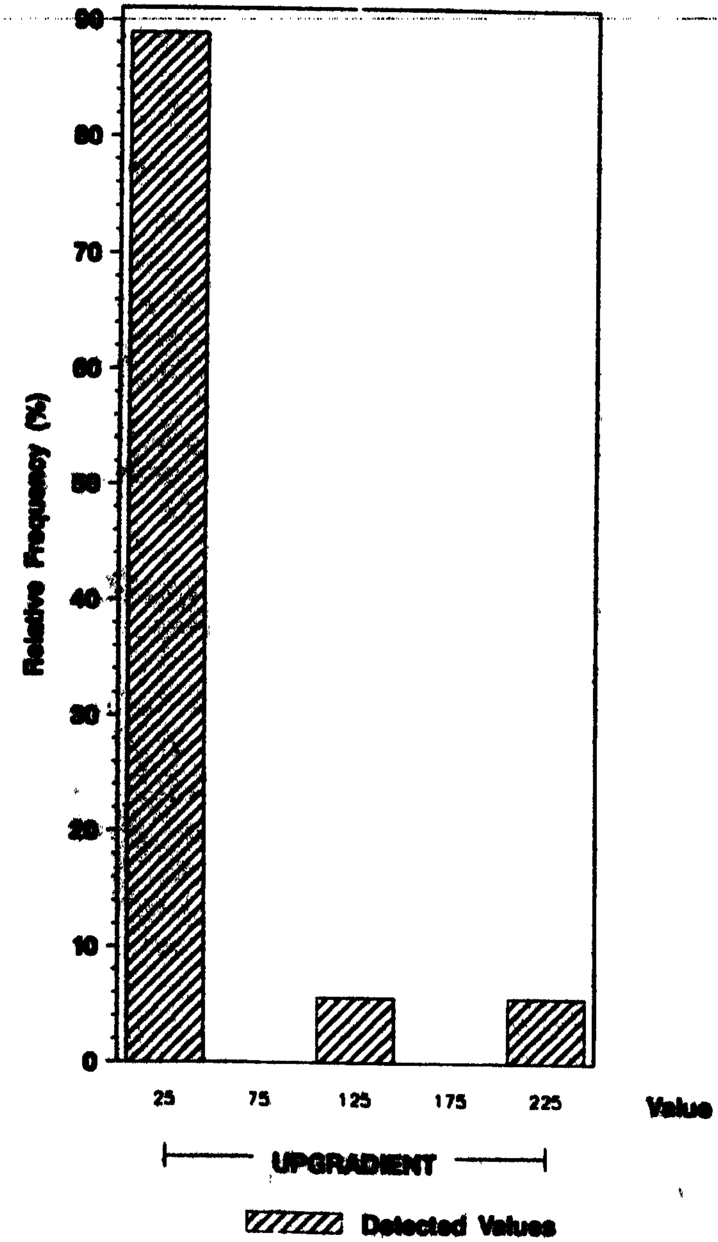
ANALYTE=COBALT



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total COPPER (ug/L) in Groundwater

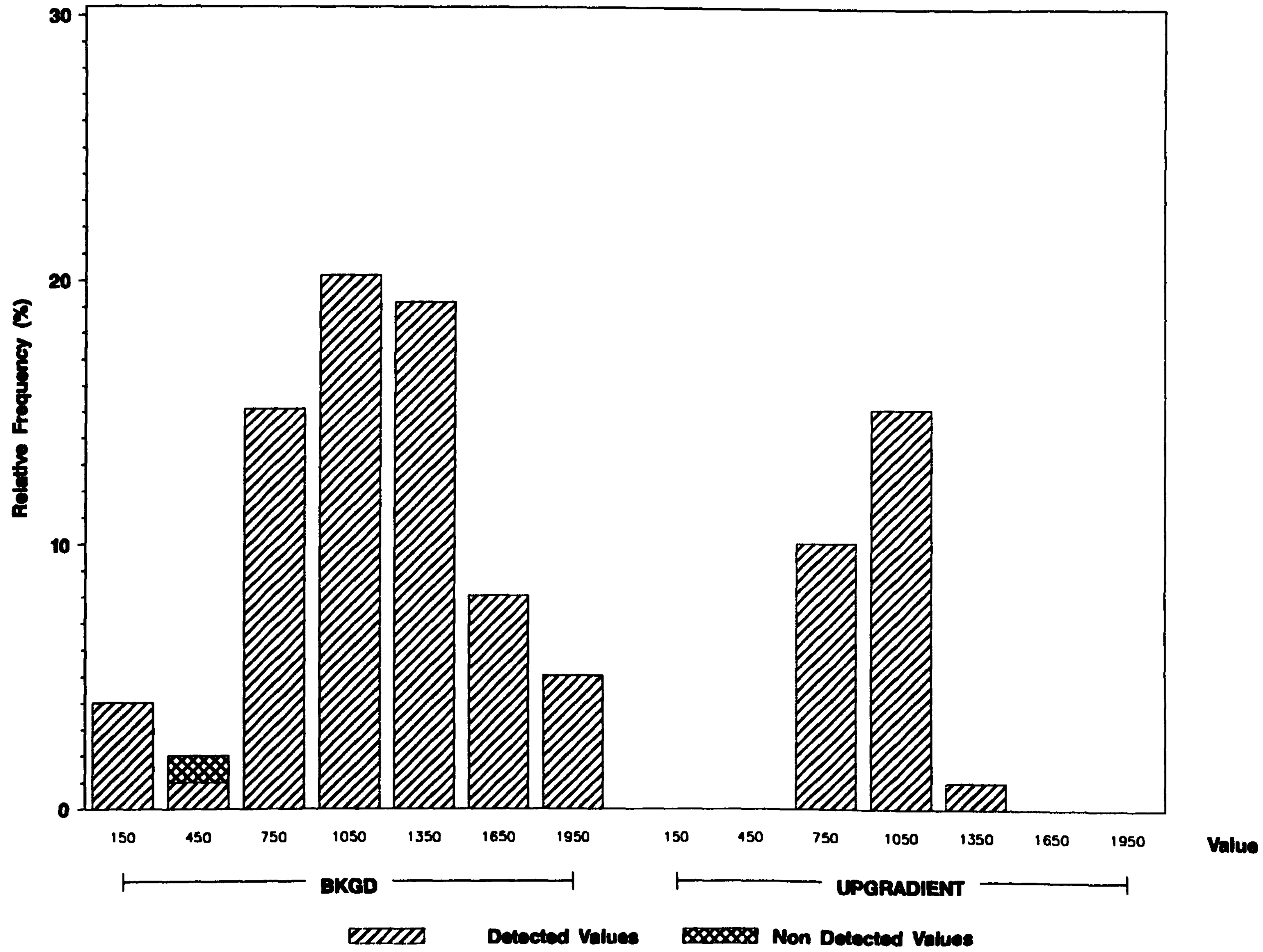
ANALYTE=COPPER



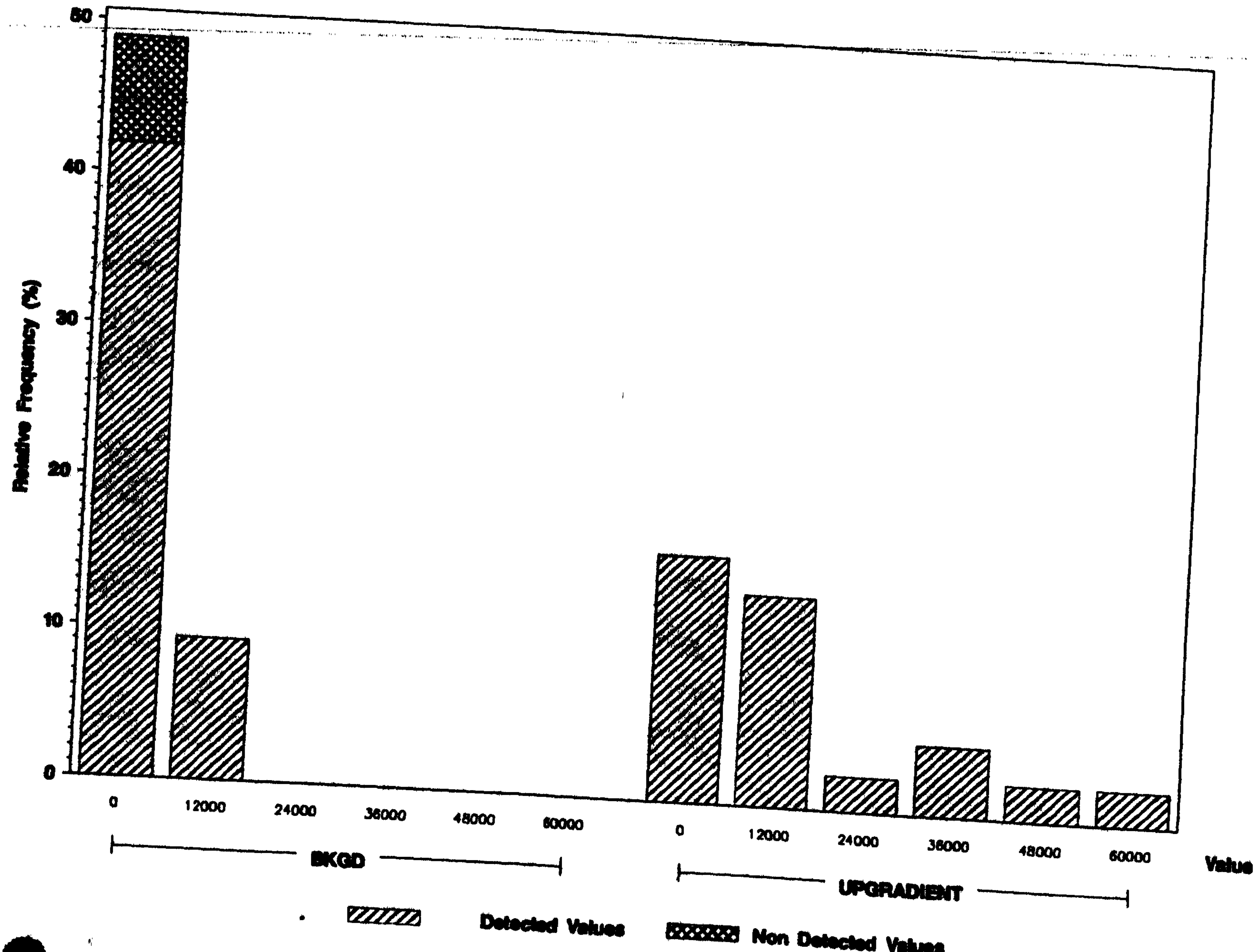
Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total FLUORIDE (ug/L) in Groundwater

ANALYTE=FLUORIDE



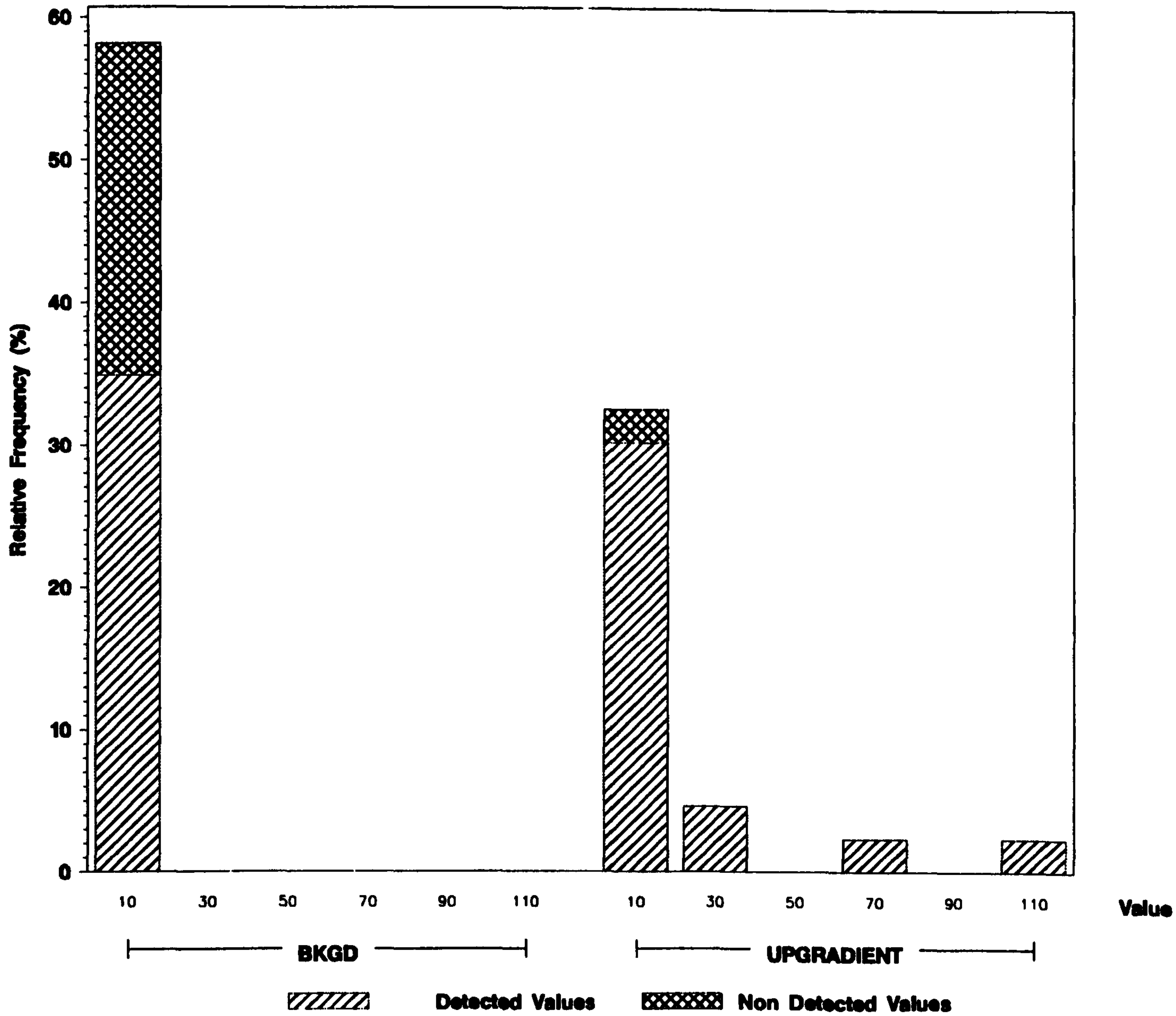
Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram
Total IRON (ug/L) in Groundwater
ANALYTE=IRON



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total LEAD (ug/L) in Groundwater

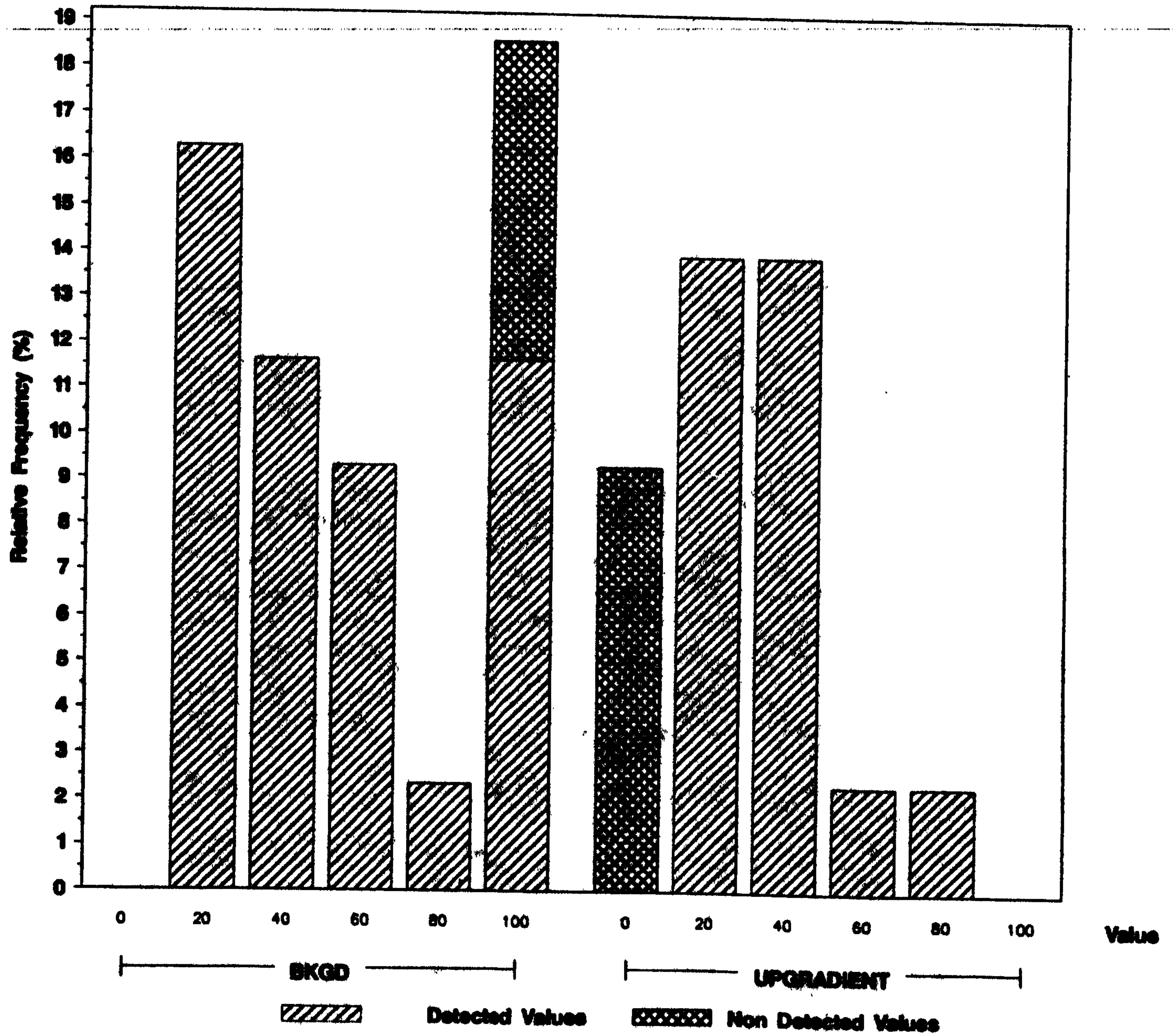
ANALYTE=LEAD



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total LITHIUM (ug/L) in Groundwater

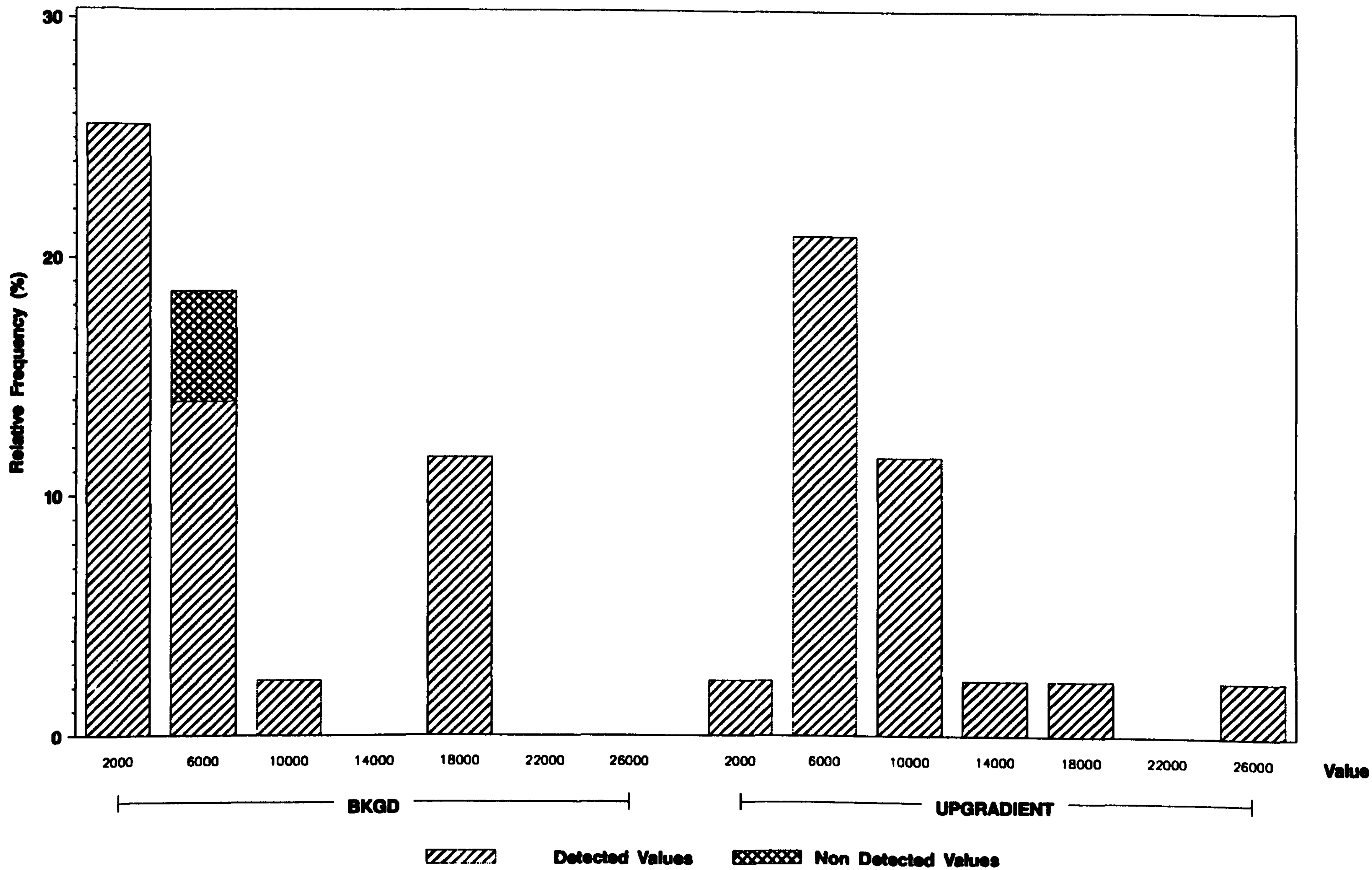
ANALYTE = LITHIUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total MAGNESIUM (ug/L) in Groundwater

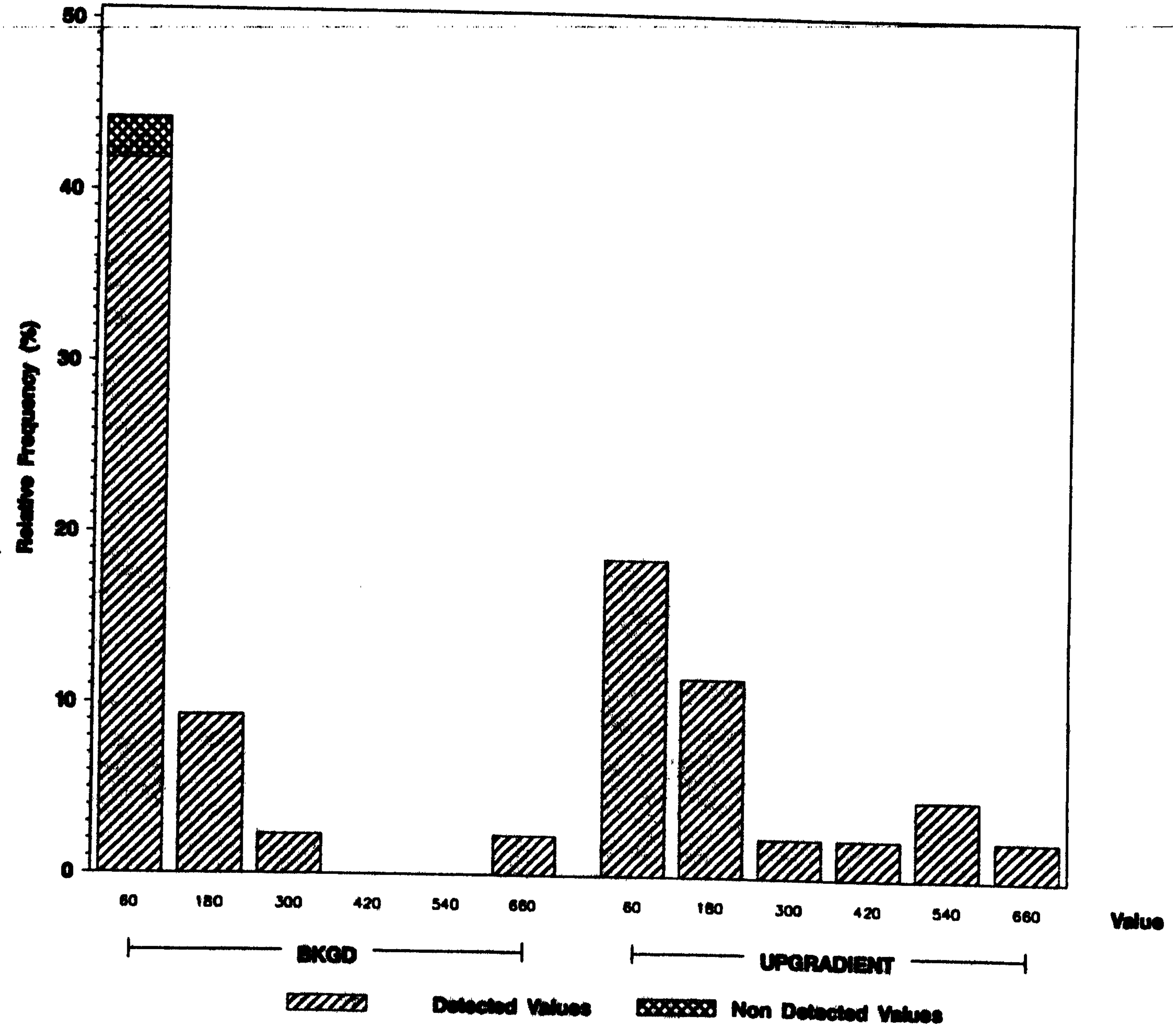
ANALYTE = MAGNESIUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total MANGANESE (ug/L) in Groundwater

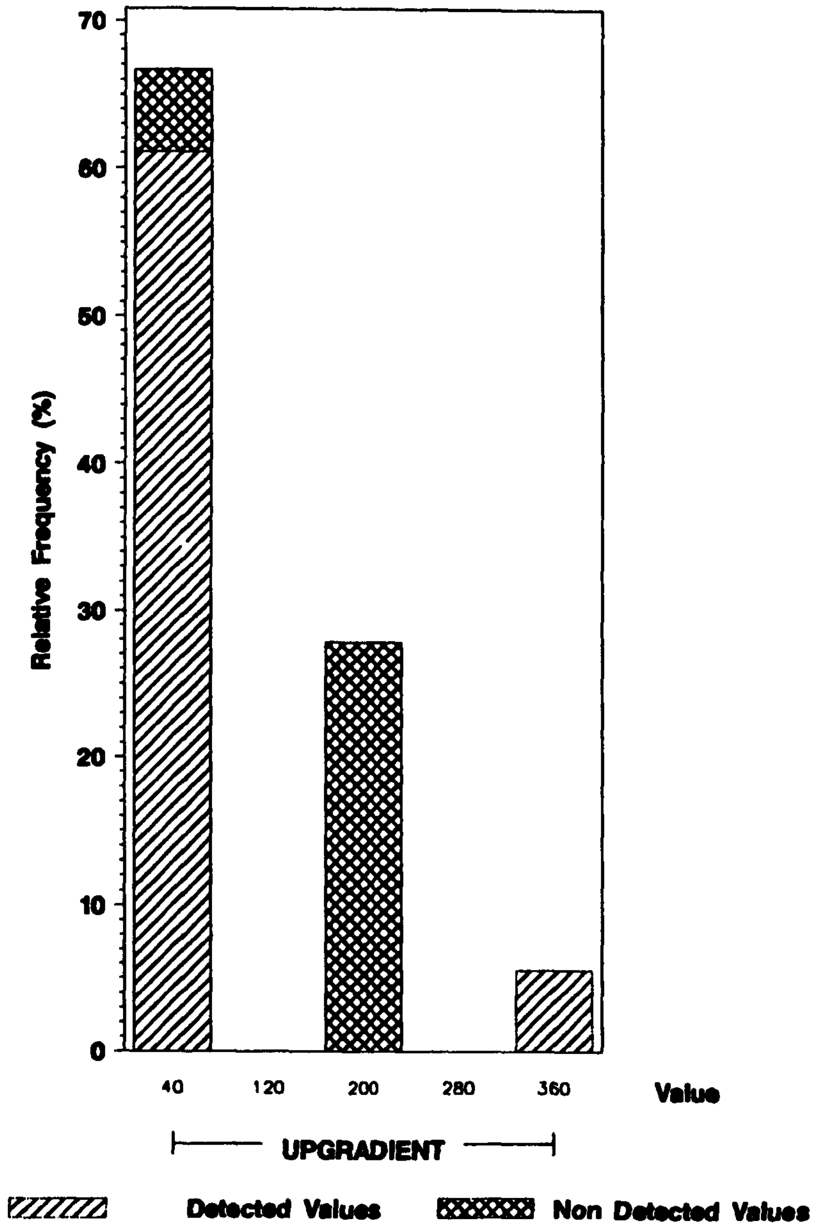
ANALYTE=MANGANESE



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total MOLYBDENUM (ug/L) in Groundwater

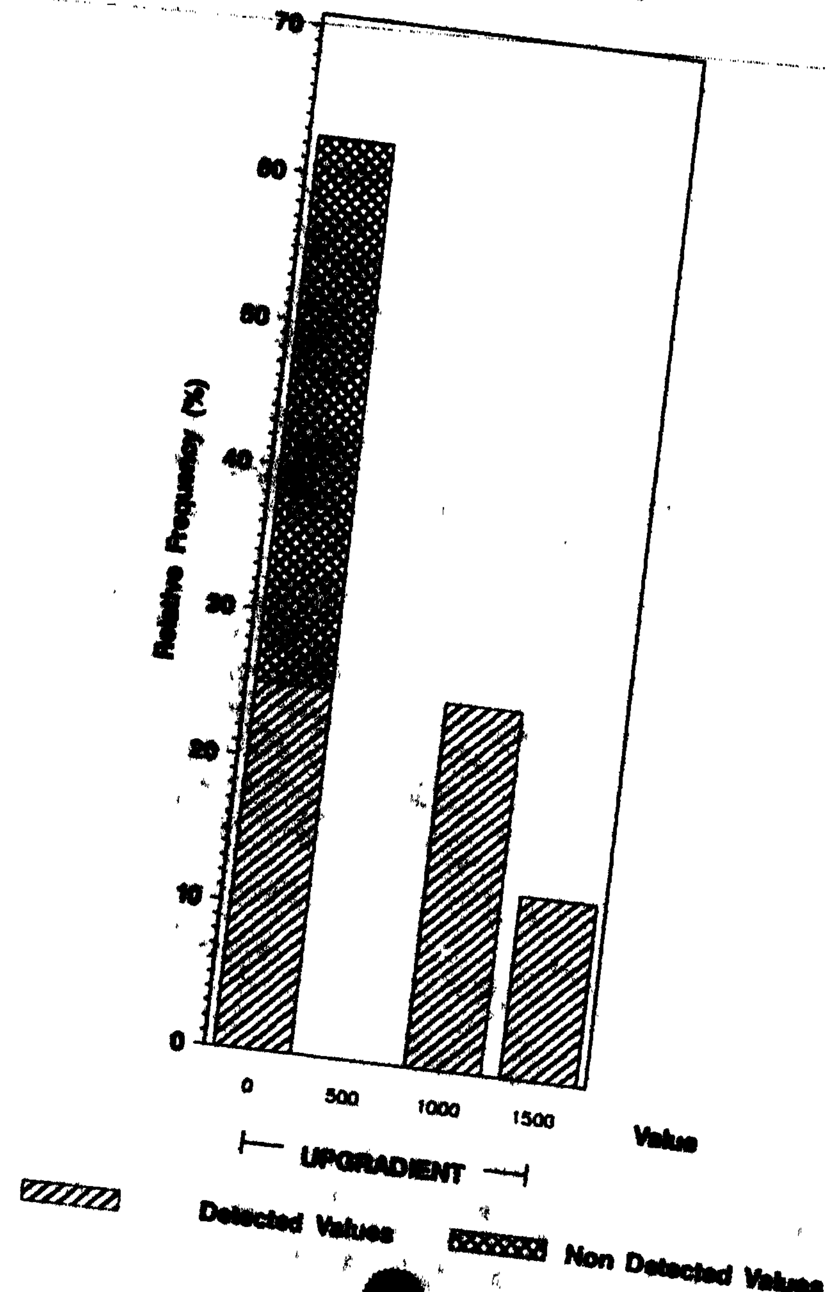
ANALYTE = MOLYBDENUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total NITRATE (ug/L) in Groundwater

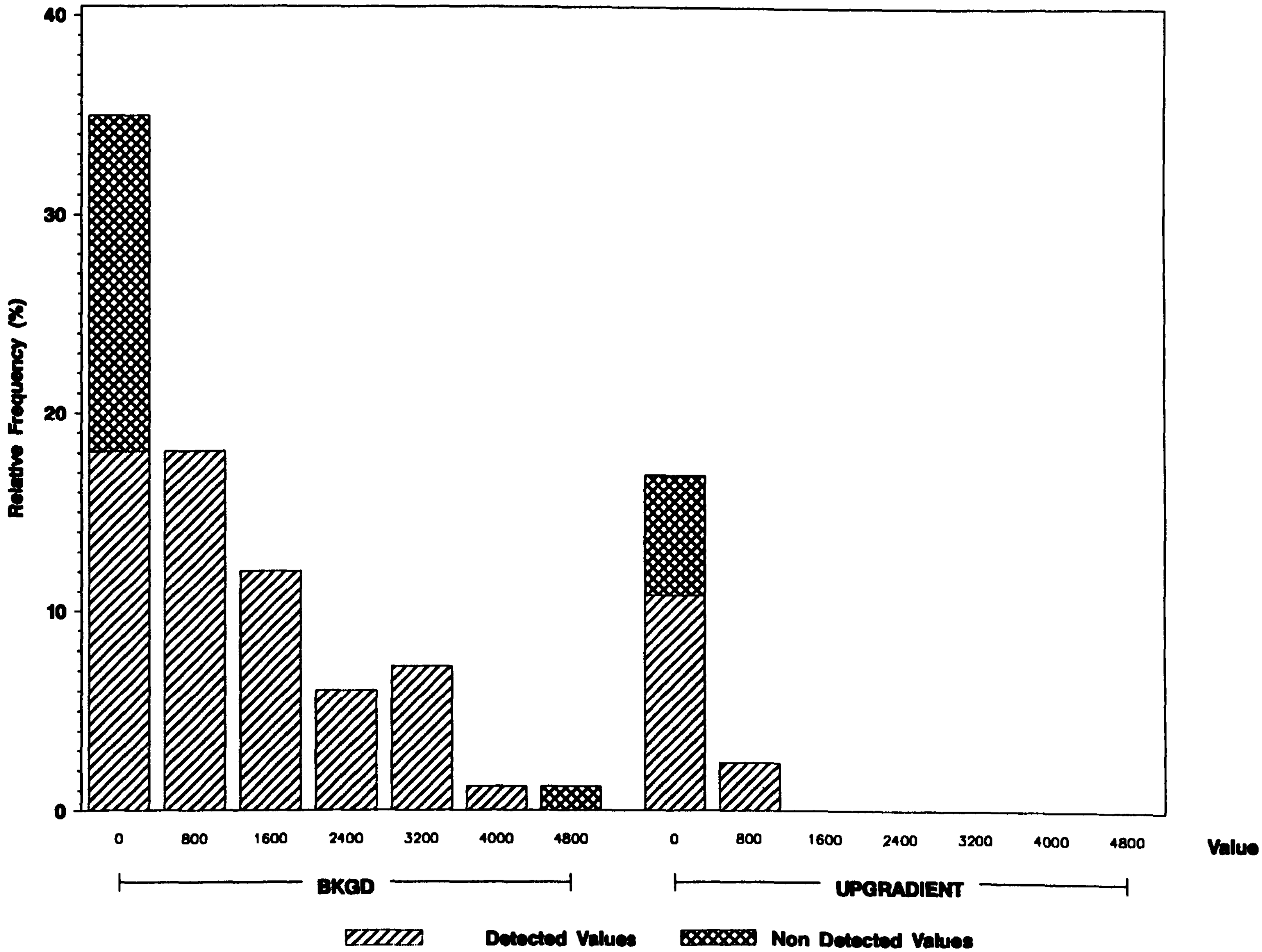
ANALYTE = NITRATE



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total NITRATE/NITRITE (ug/L) in Groundwater

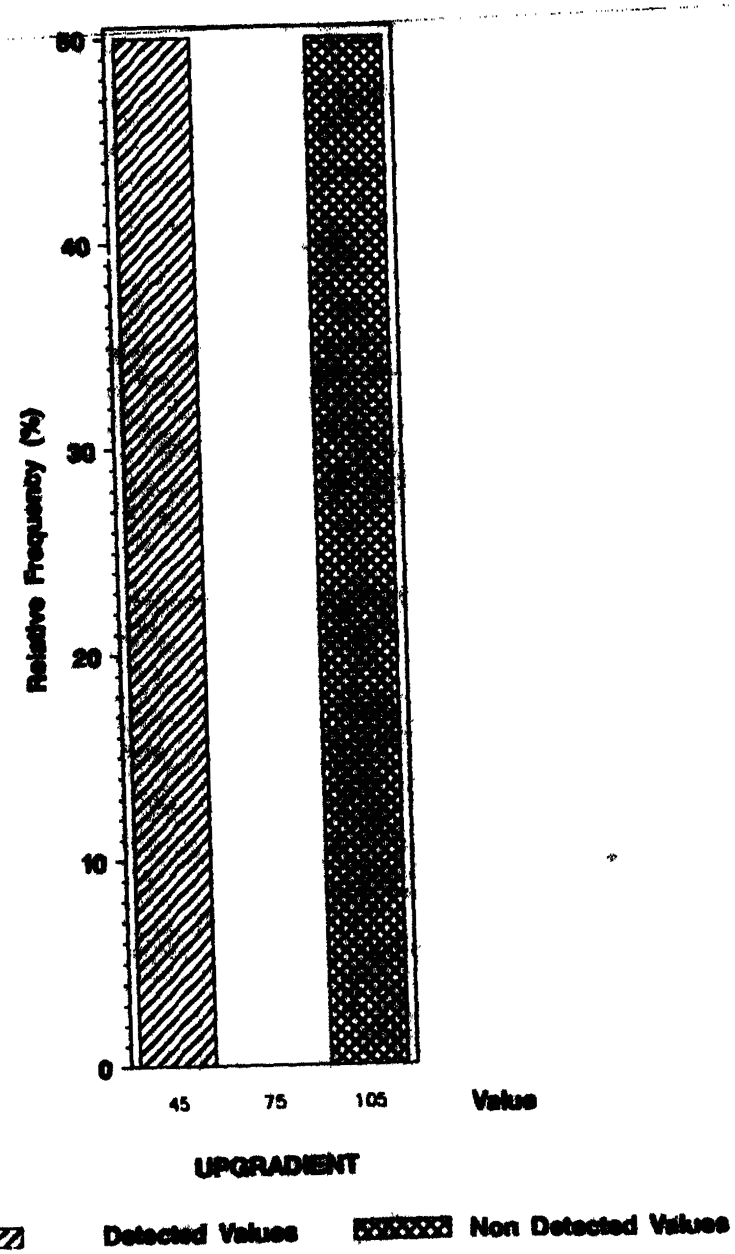
ANALYTE = NITRATE/NITRITE



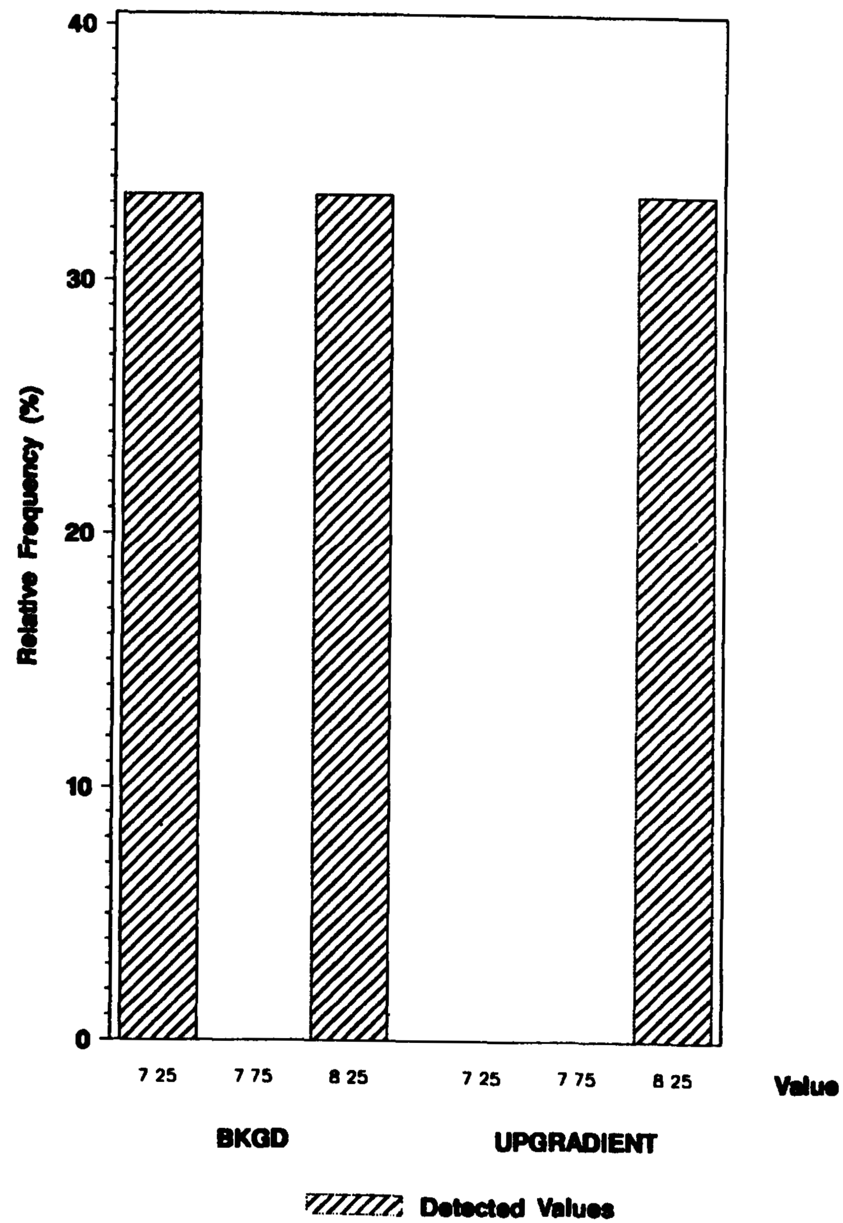
Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total NITRITE (ug/L) in Groundwater

ANALYTE=NITRITE



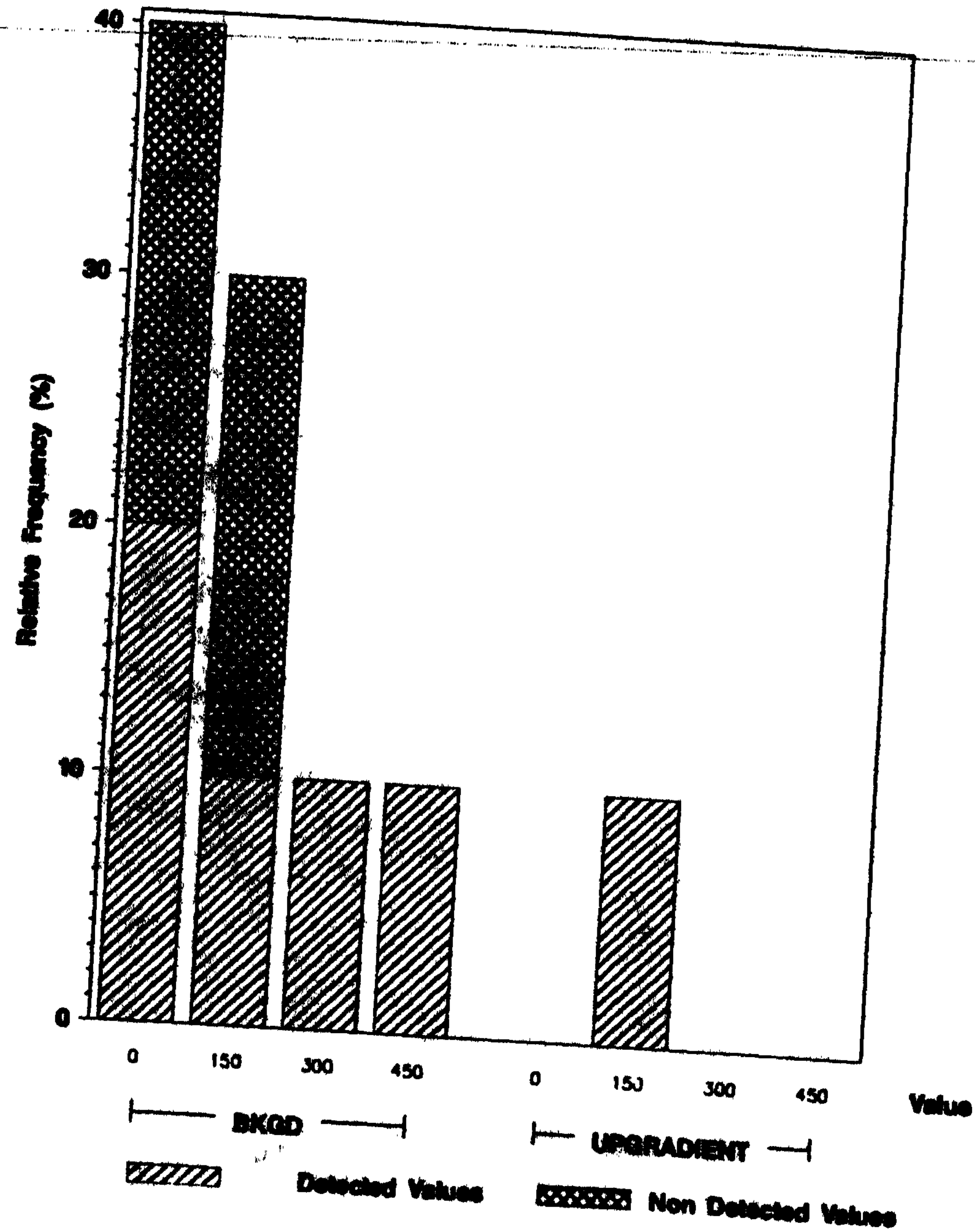
Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram
pH (Standard Units) in Groundwater
ANALYTE = pH



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total PHOSPHORUS (ug/L) in Groundwater

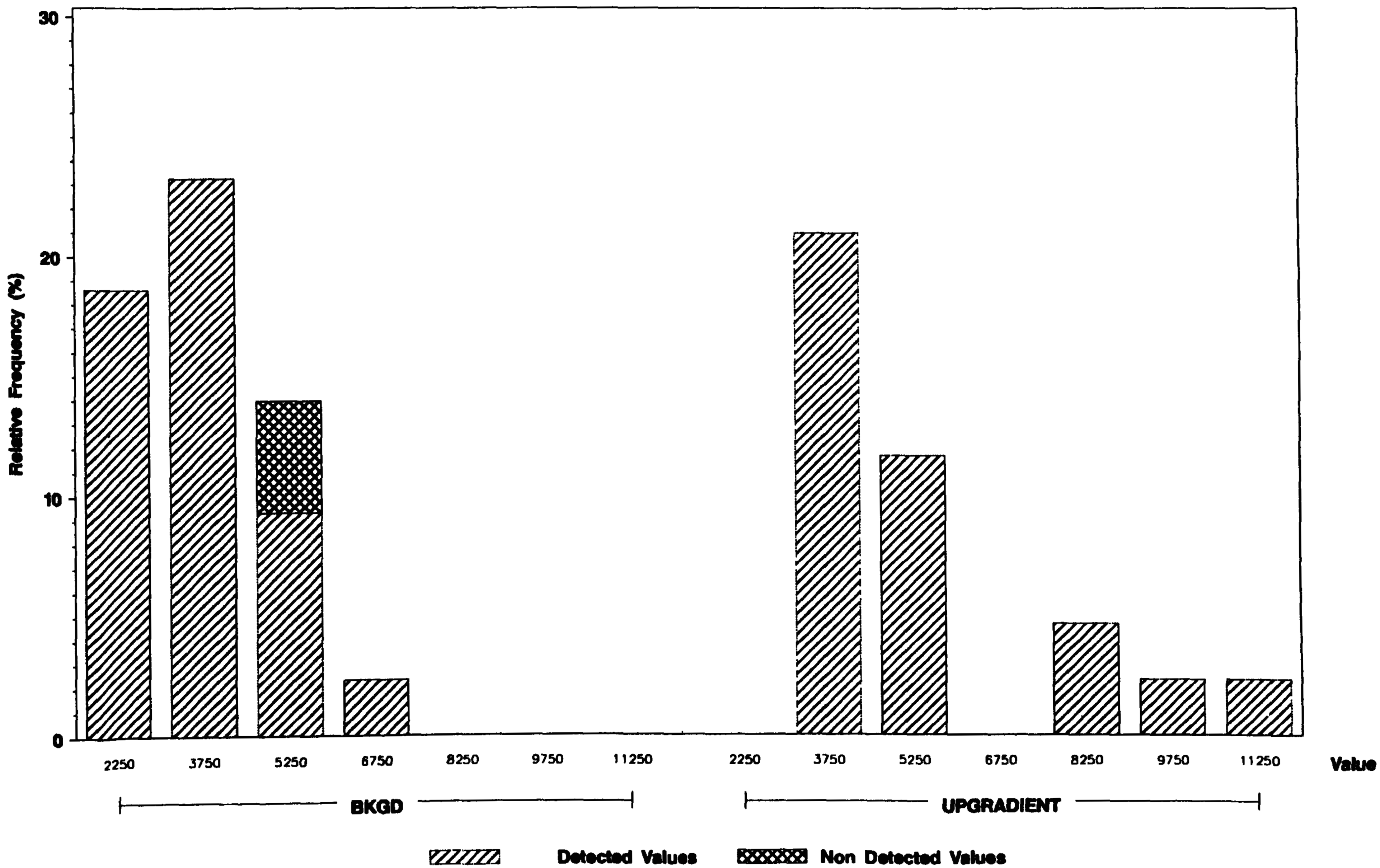
ANALYTE = PHOSPHORUS



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total POTASSIUM (ug/L) in Groundwater

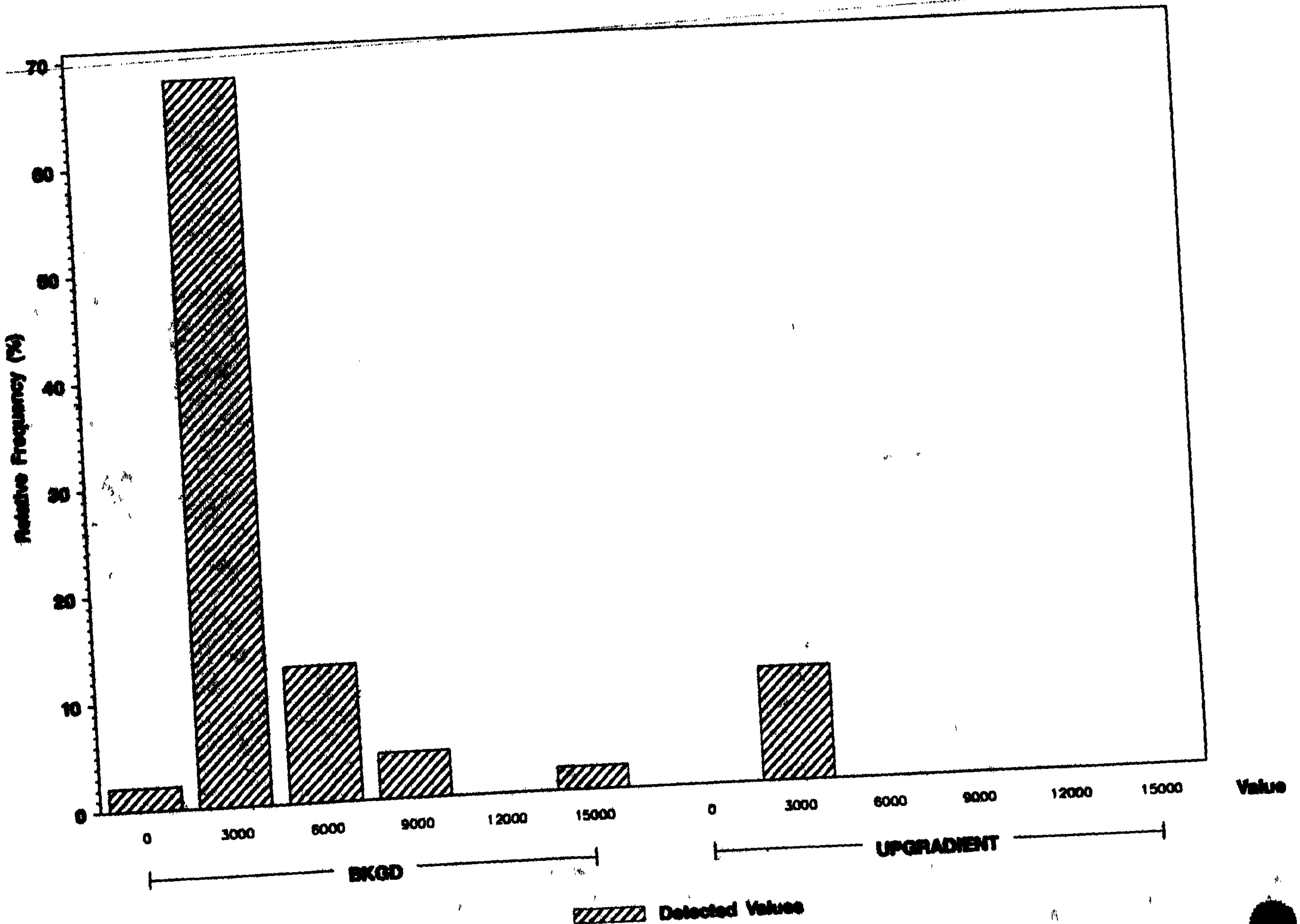
ANALYTE = POTASSIUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total SILICA (ug/L) in Groundwater

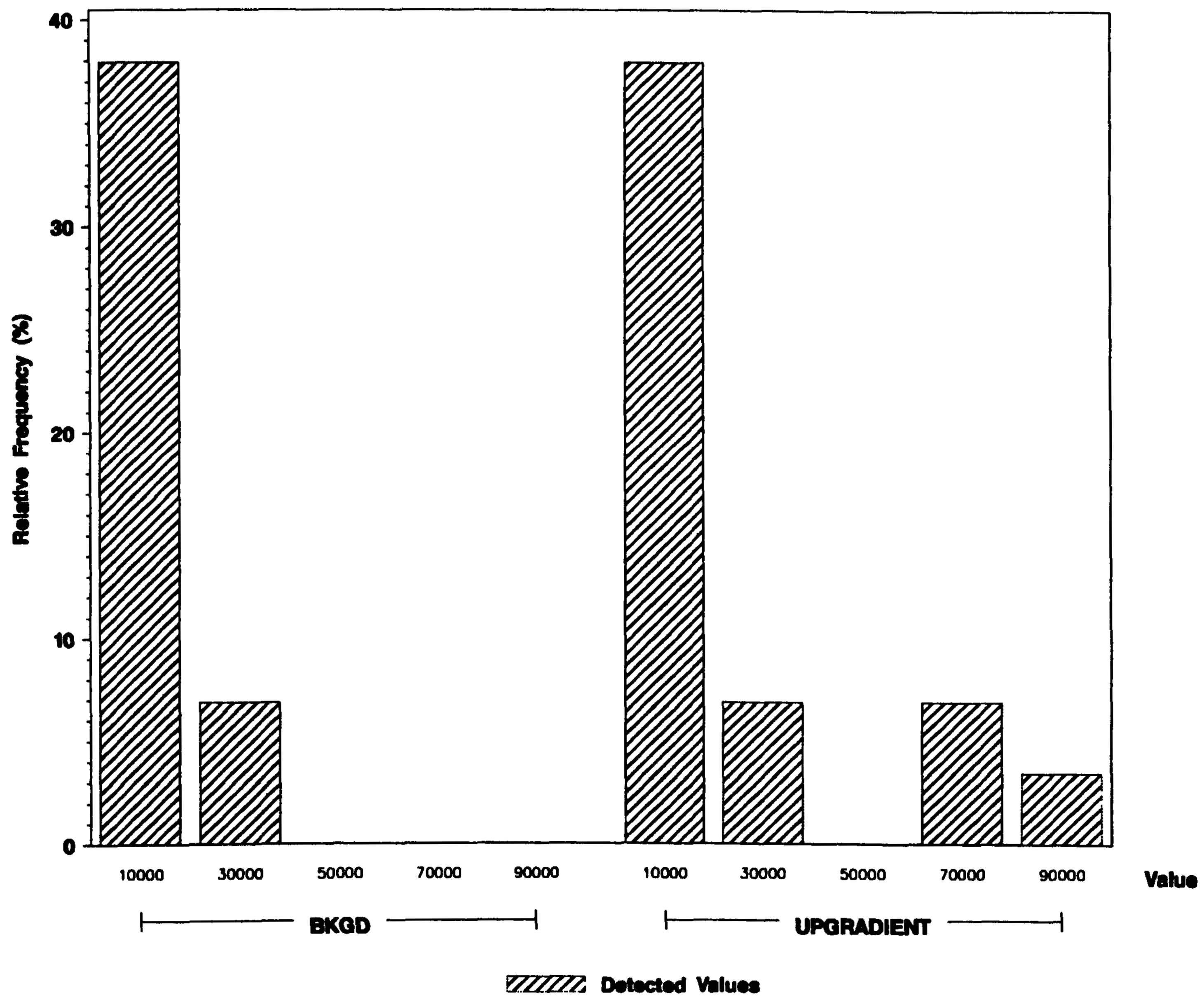
ANALYTE=SILICA



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total SILICON (ug/L) in Groundwater

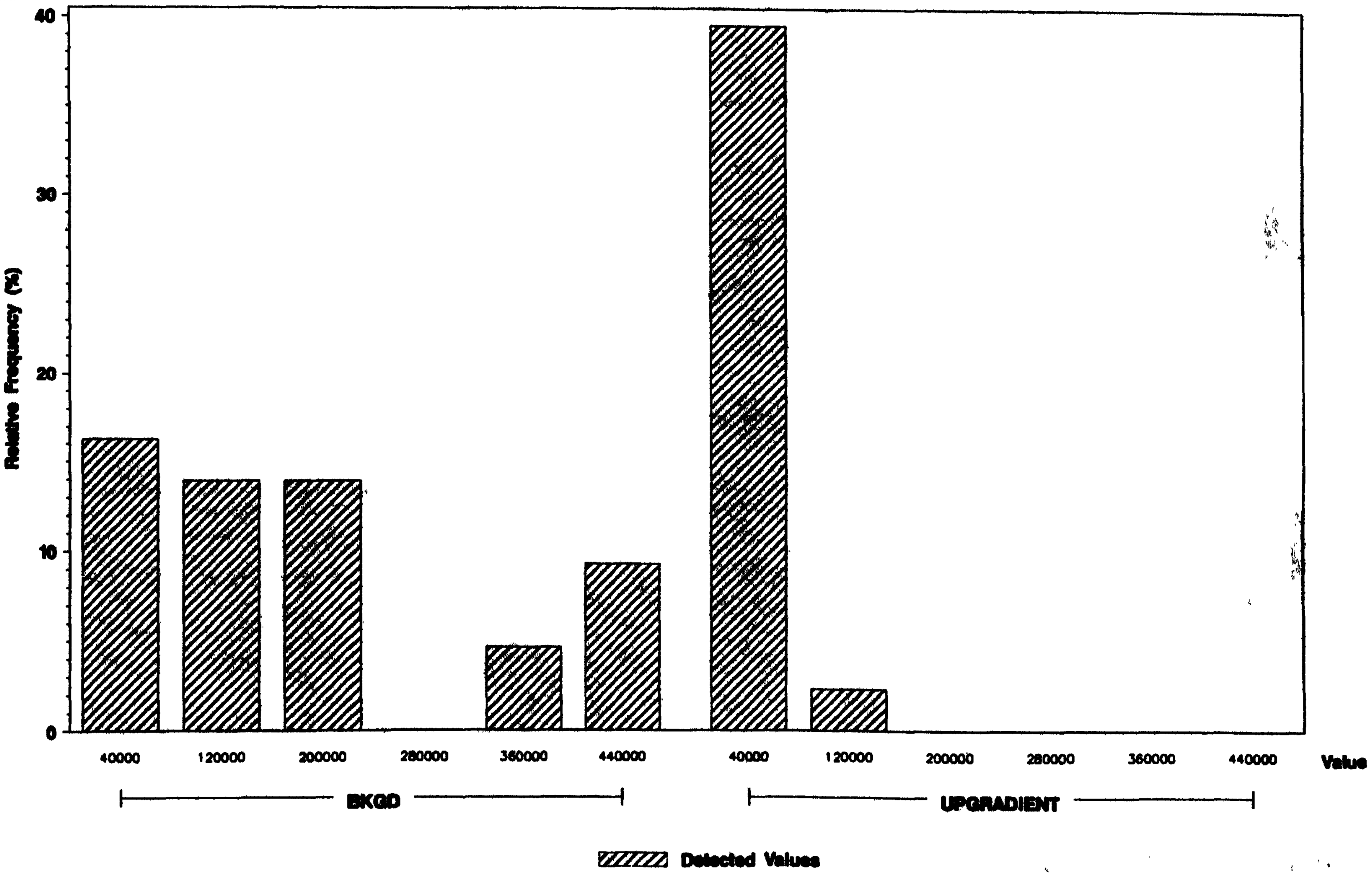
ANALYTE=SILICON



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total SODIUM (ug/L) in Groundwater

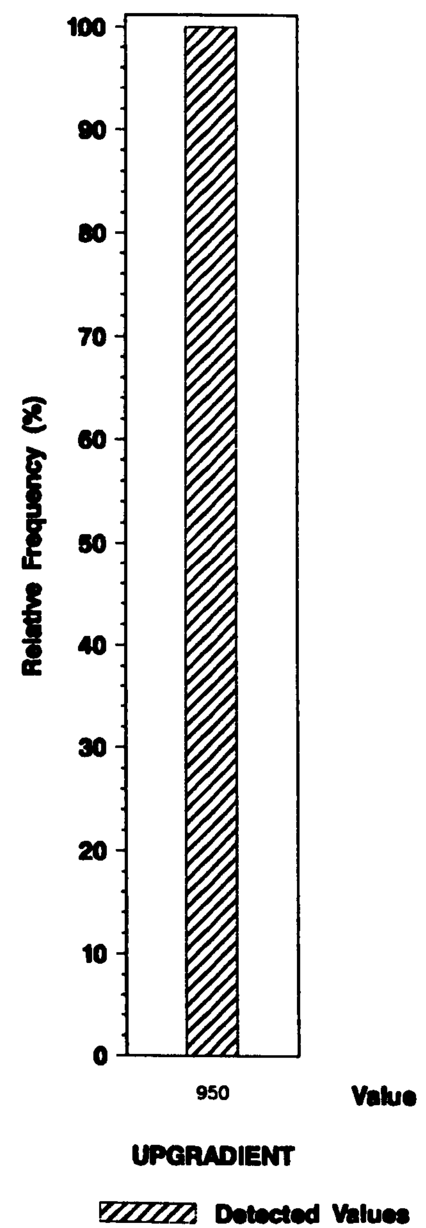
ANALYTE=SODIUM



Backg●und vs OU7 Upgradient Grou●dwater (LHSU) Frequency Hist●gram

Total SODIUM FLUORIDE (ug/L) in Groundwater

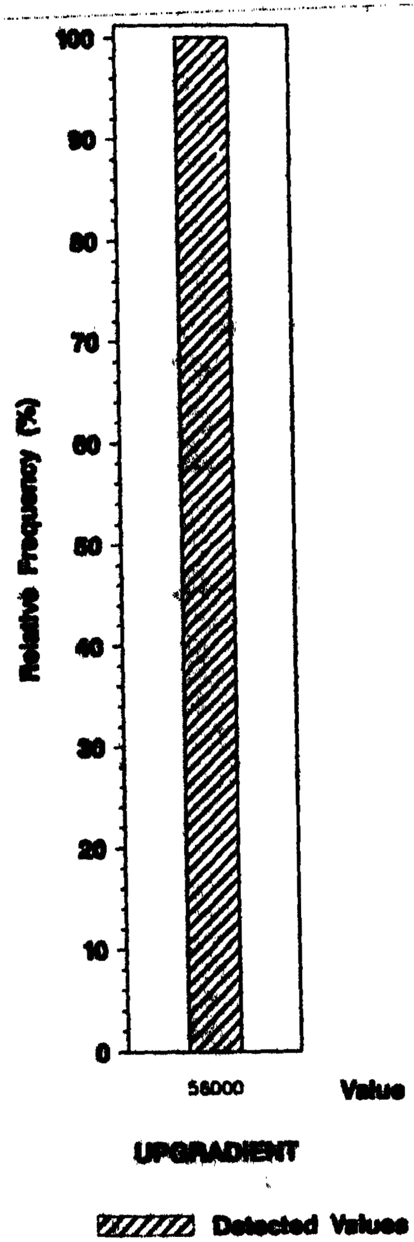
ANALYTE=SODIUM FLUORIDE



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total SODIUM SULFATE (ug/L) in Groundwater

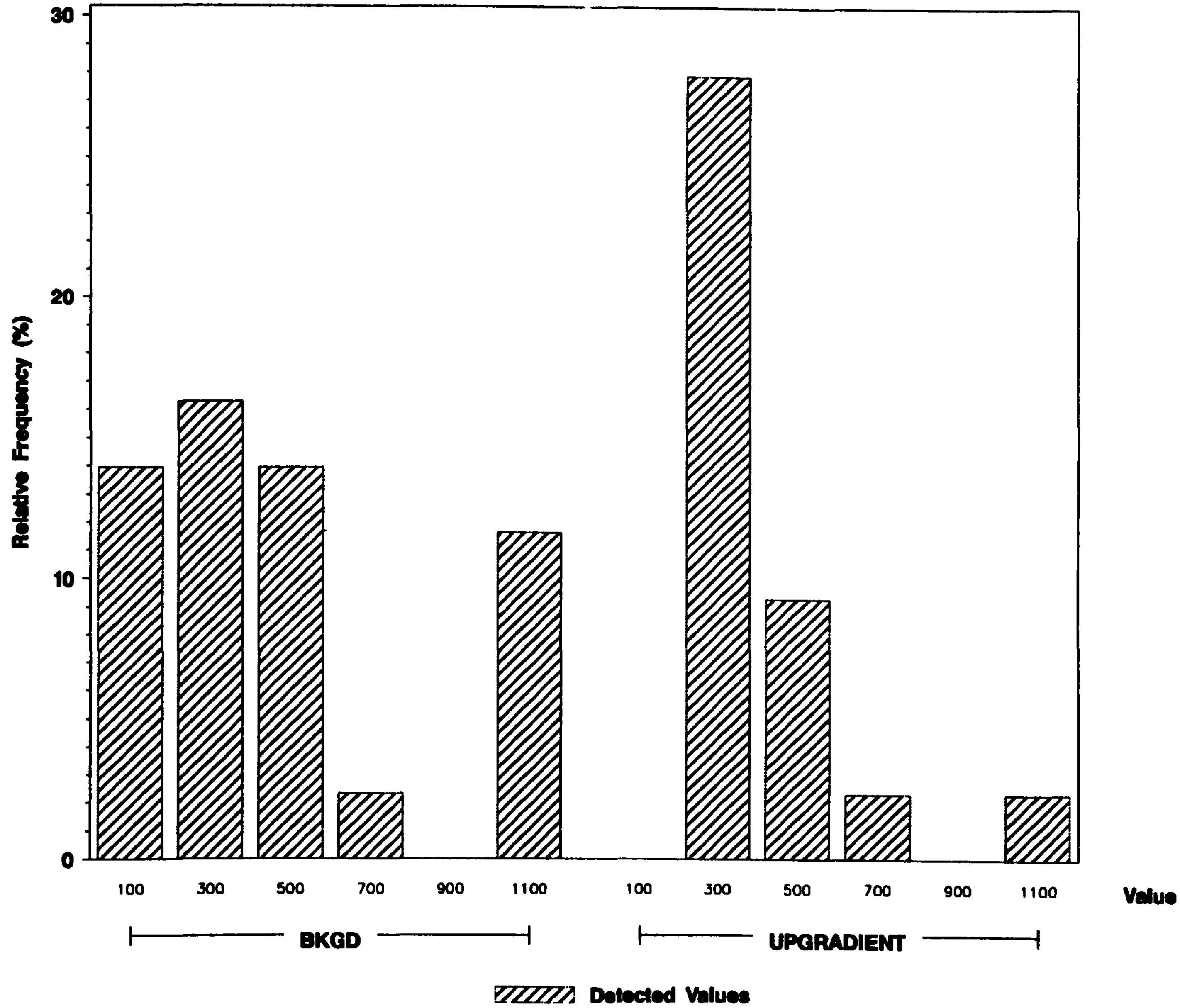
ANALYTE=SODIUM SULFATE



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total STRONTIUM (ug/L) in Groundwater

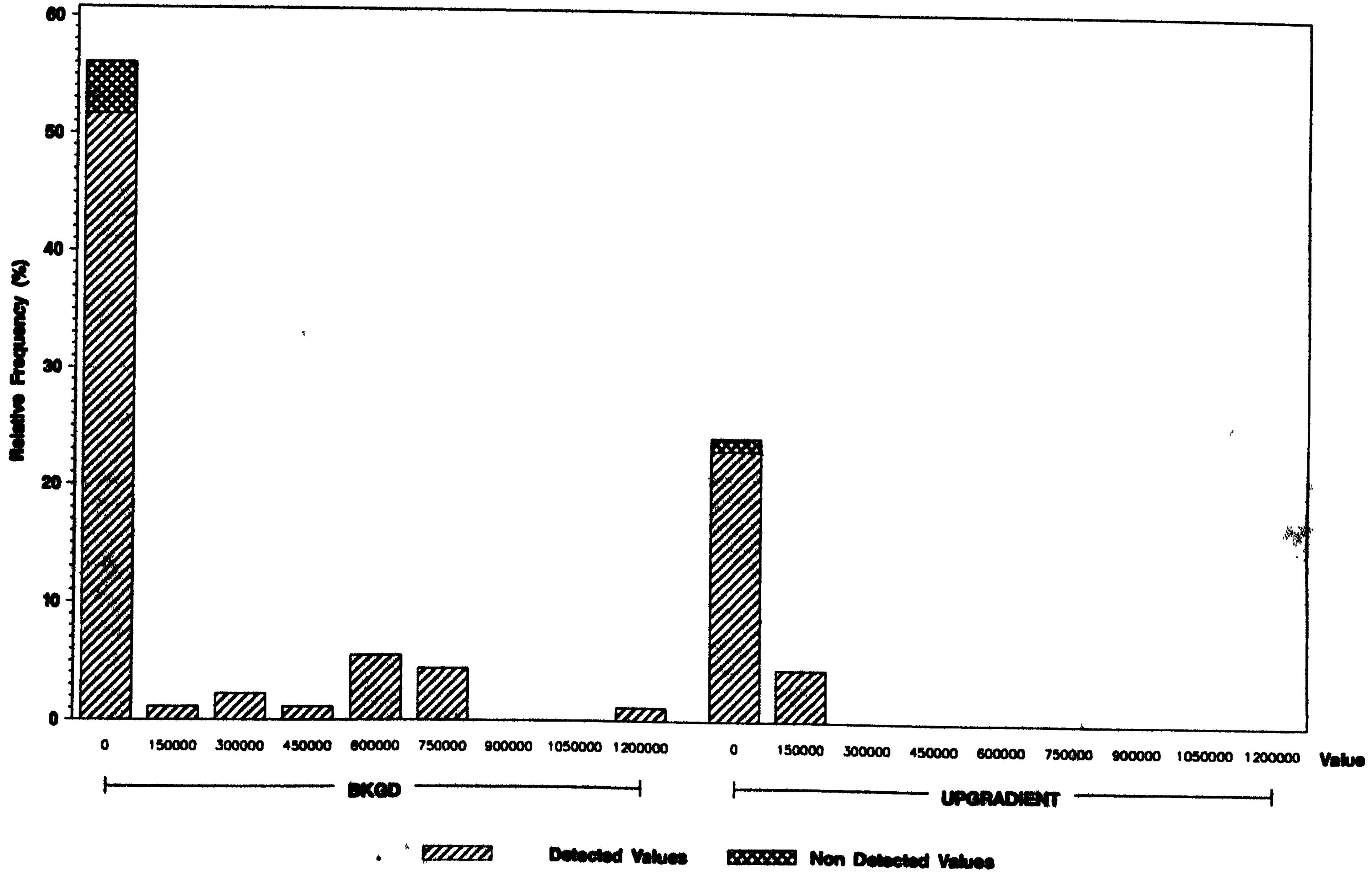
ANALYTE=STRONTIUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total SULFATE (ug/L) in Groundwater

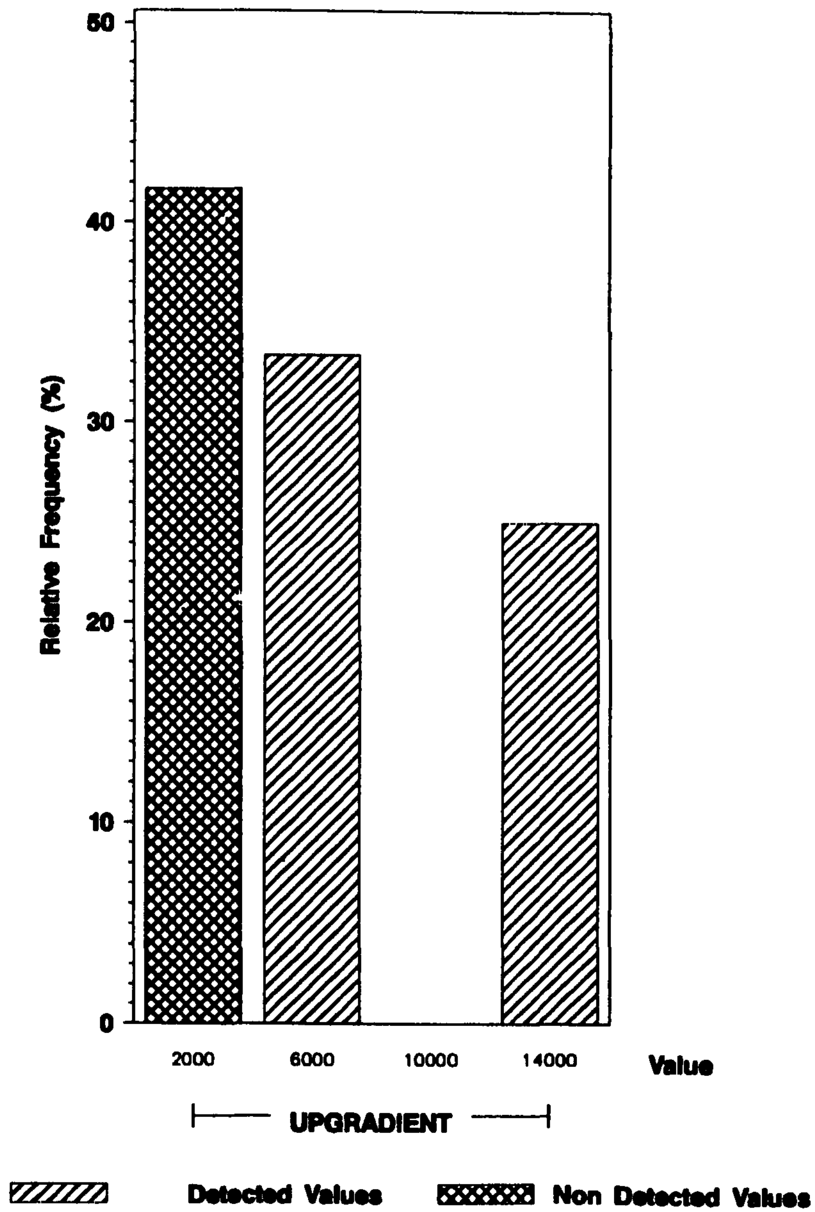
ANALYTE=SULFATE



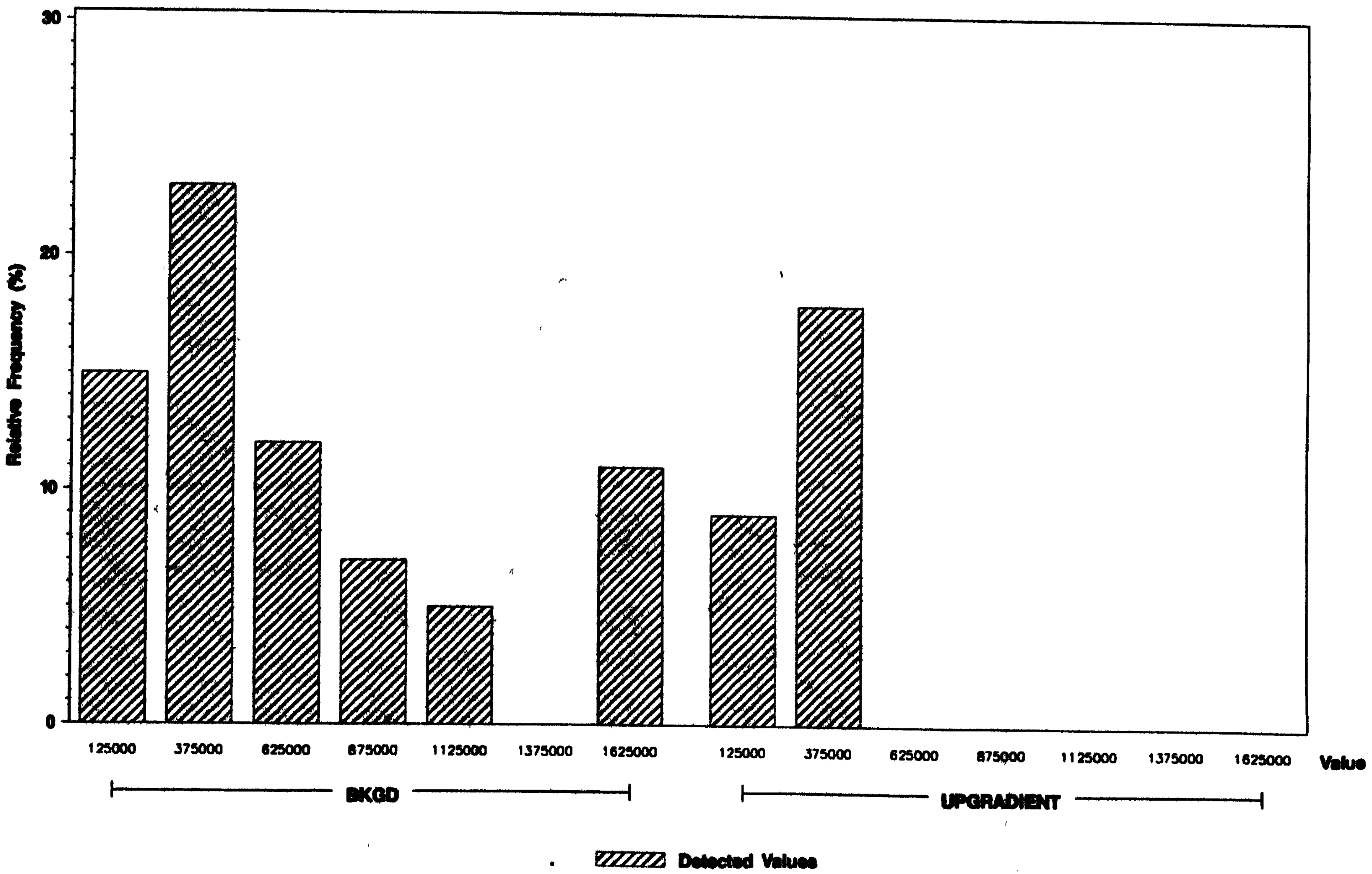
Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total SULFIDE (ug/L) in Groundwater

ANALYTE=SULFIDE



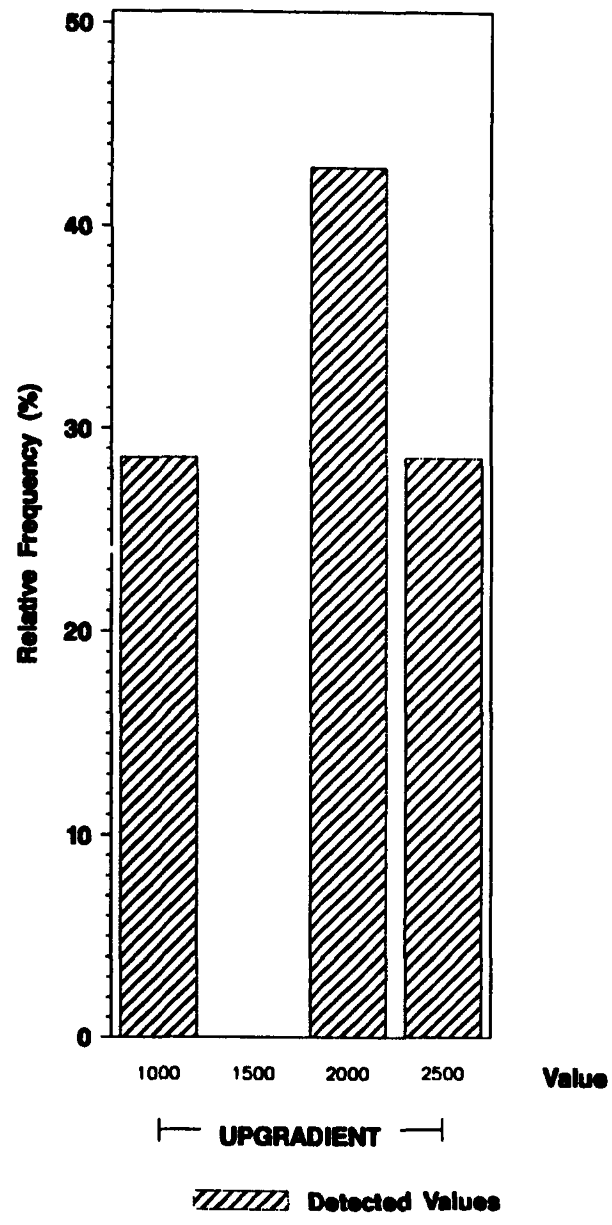
Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram
TOTAL DISSOLVED SOLIDS (ug/L) in Groundwater
ANALYTE=TOTAL DISSOLVED SOLIDS



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

TOTAL ORGANIC CARBON (ug/L) in Groundwater

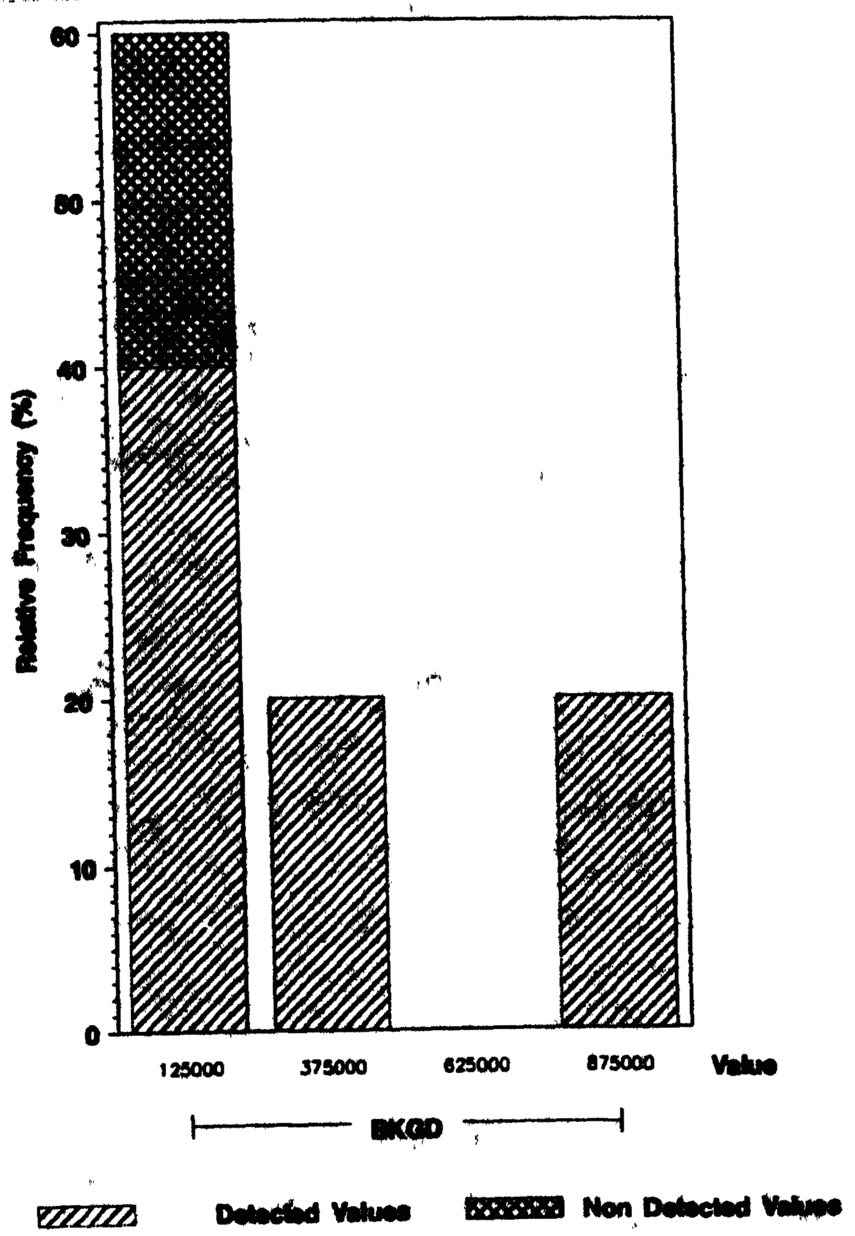
ANALYTE=TOTAL ORGANIC CARBON



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

TOTAL SOLIDS (ug/L) in Groundwater

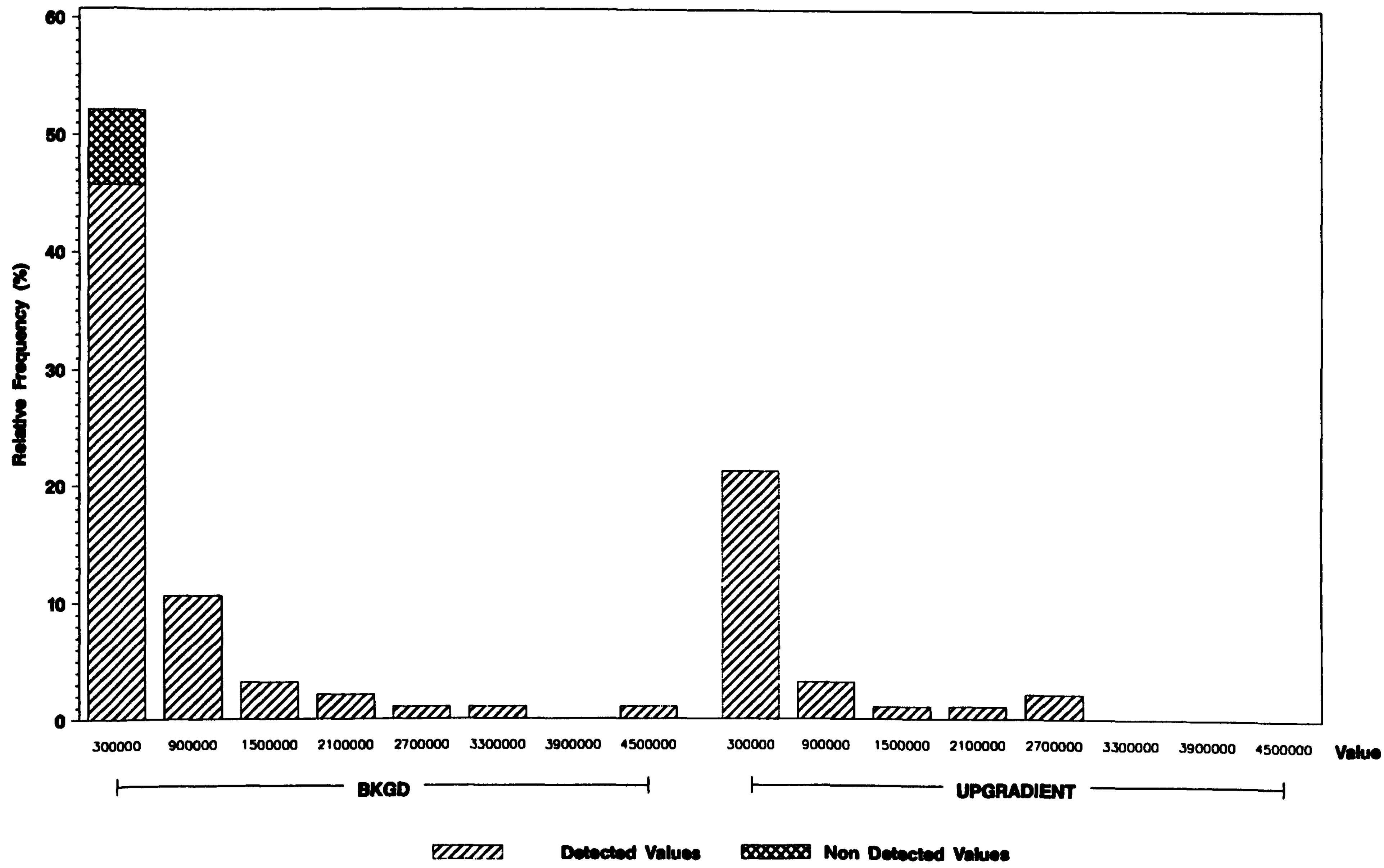
ANALYTE = TOTAL SOLIDS



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

TOTAL SUSPENDED SOLIDS (ug/L) in Groundwater

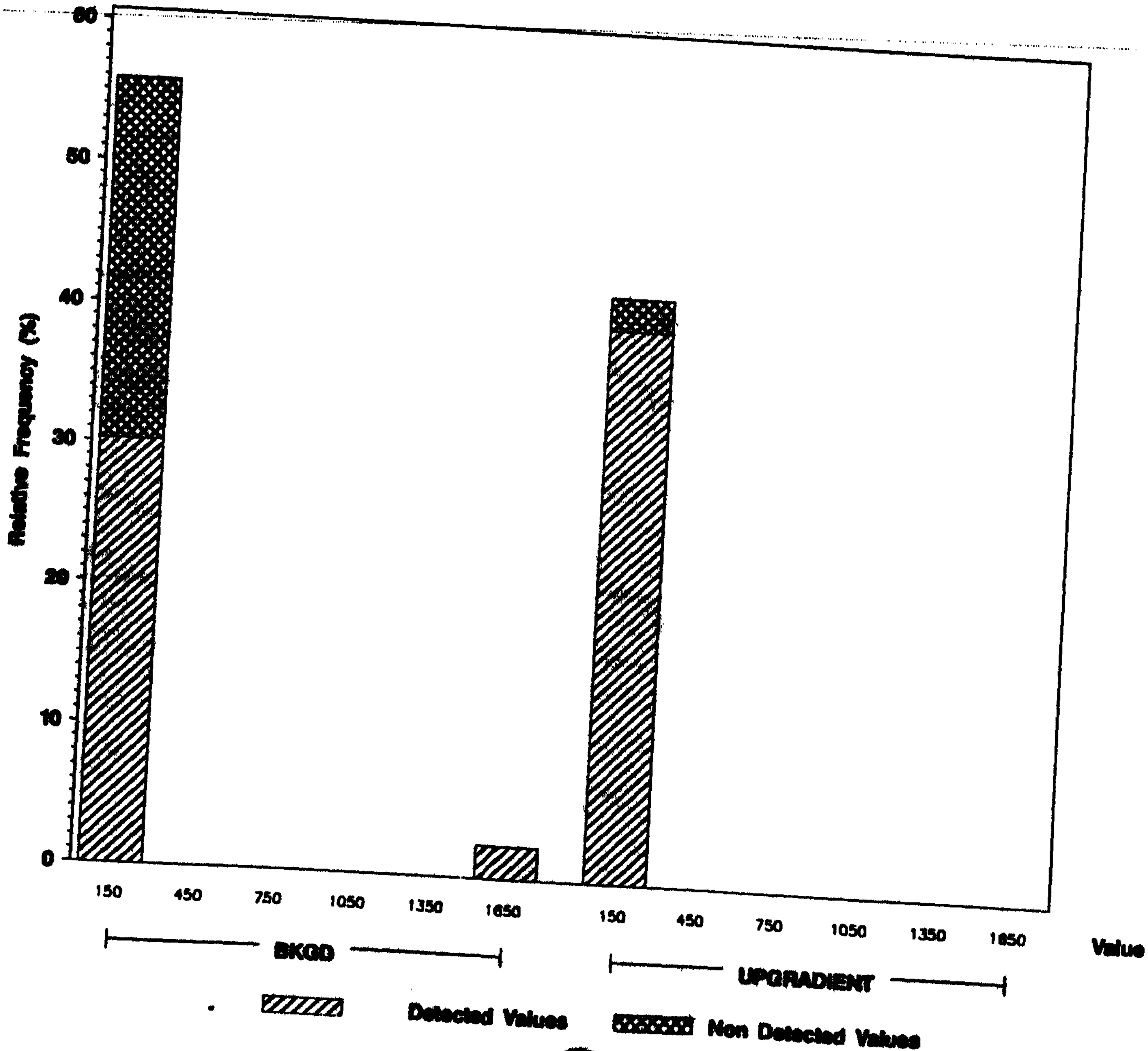
ANALYTE=TOTAL SUSPENDED SOLIDS



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total VANADIUM (ug/L) in Groundwater

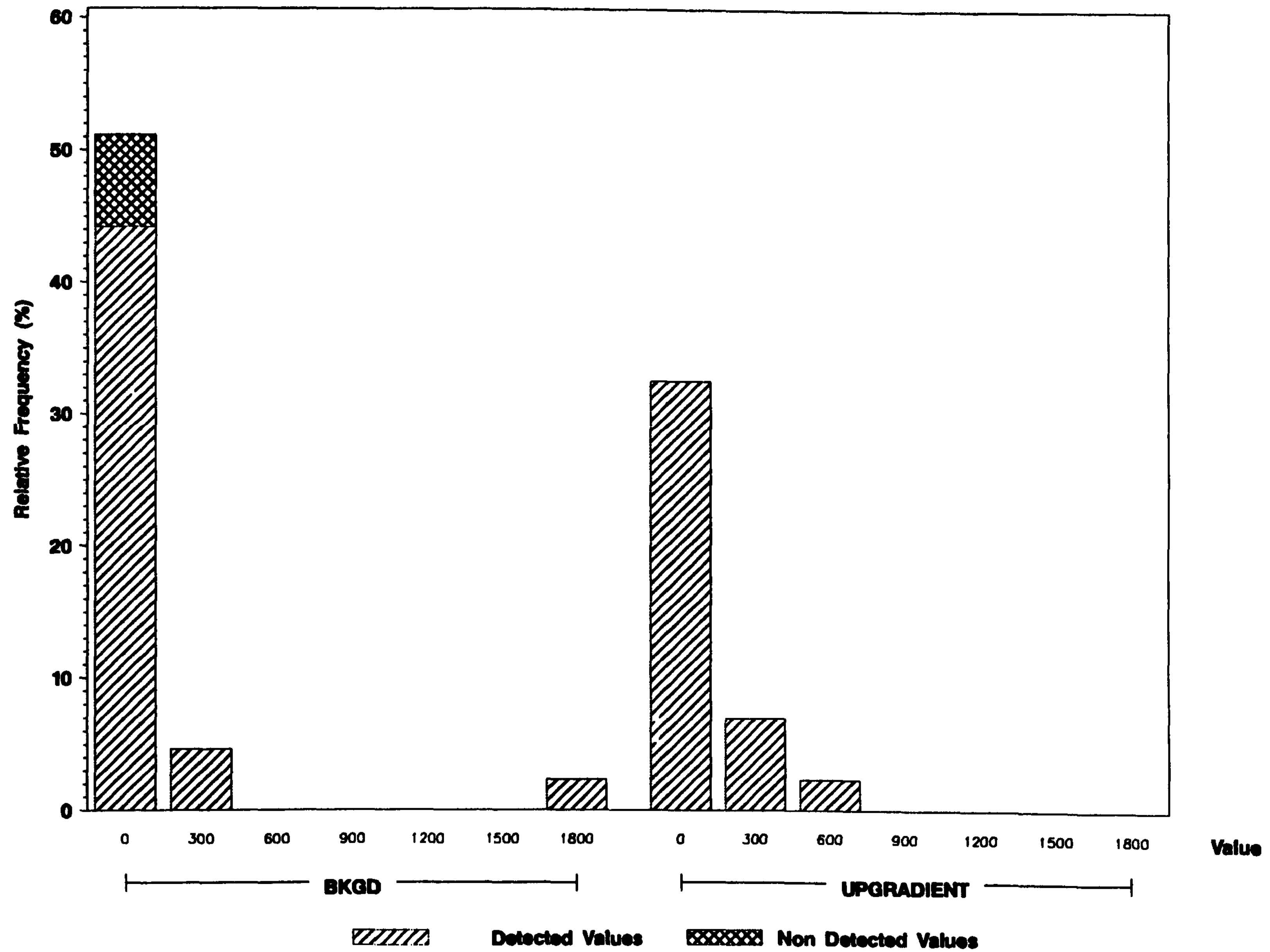
ANALYTE=VANADIUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total ZINC (ug/L) in Groundwater

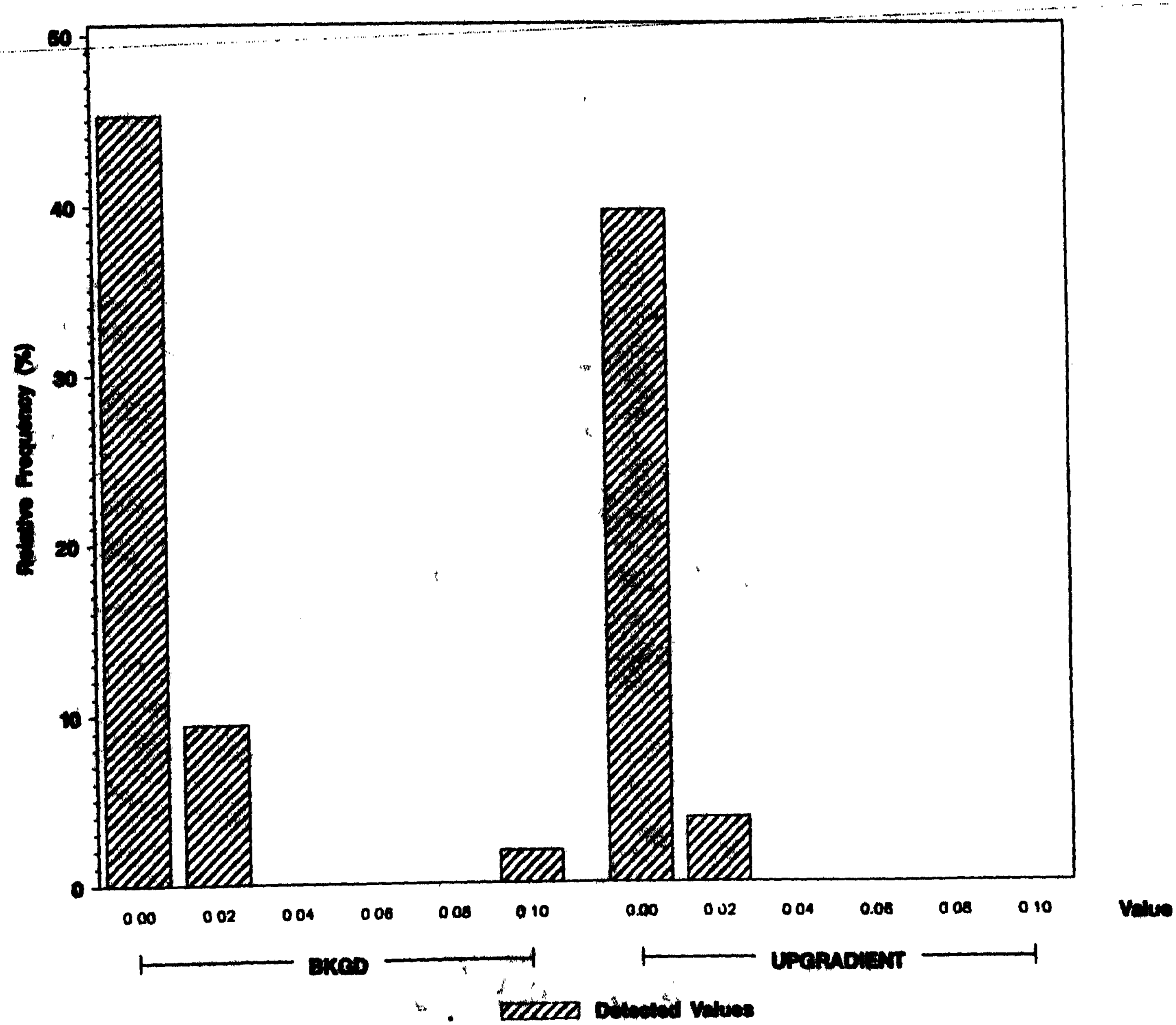
ANALYTE=ZINC



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total AMERICIUM-241 (pCi/L) in Groundwater

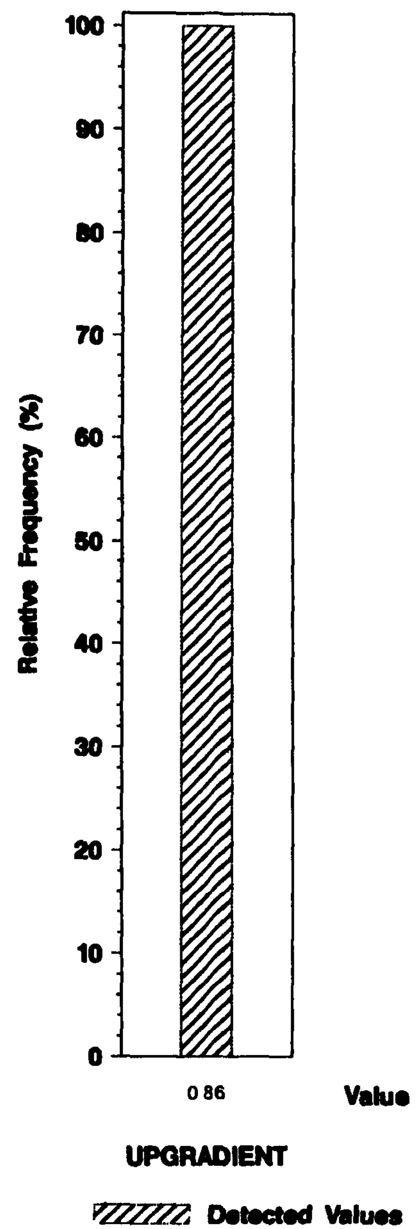
ANALYTE=AMERICIUM-241



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total CESIUM−134 (pCi/L) in Groundwater

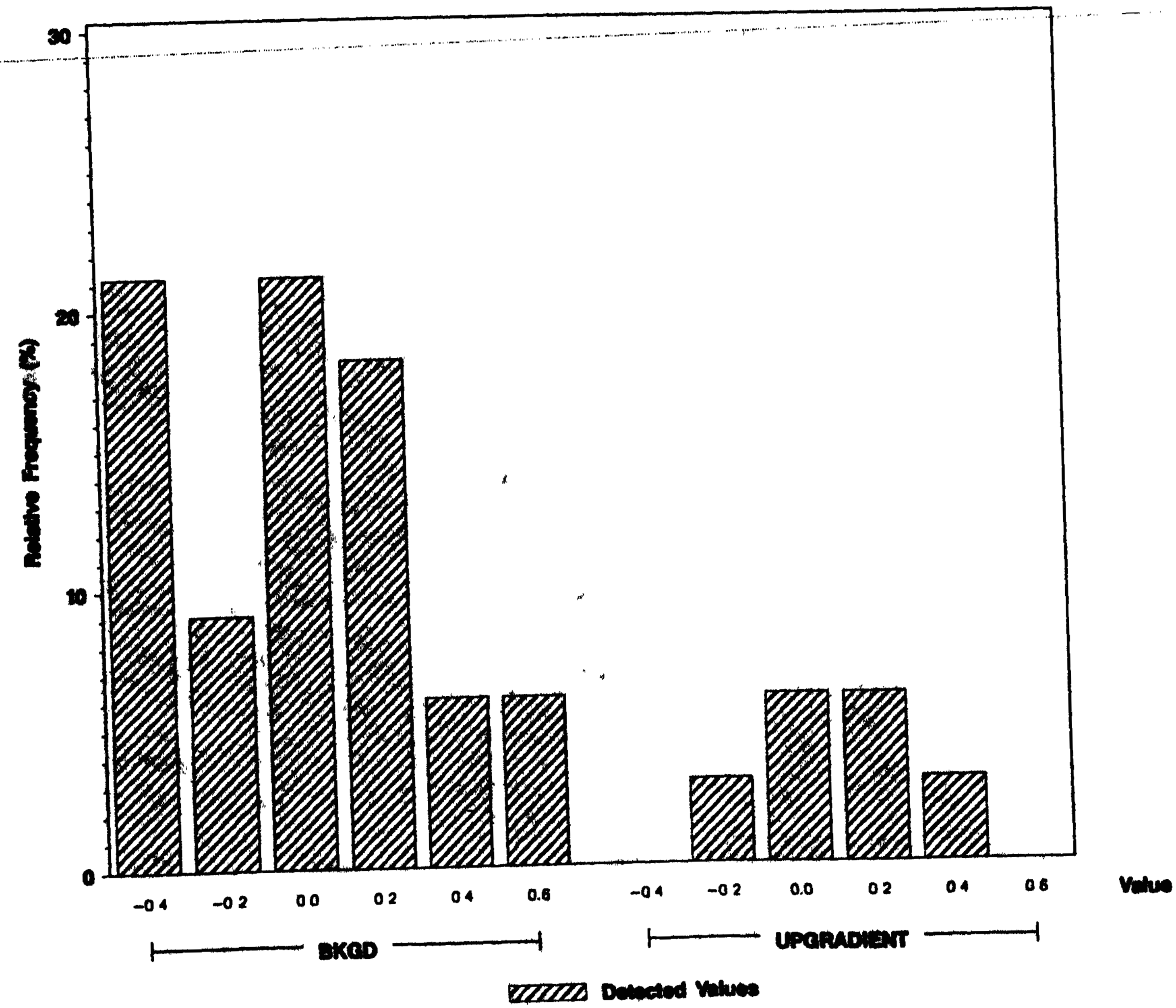
ANALYTE = CESIUM − 134



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total CESIUM-137 (pCi/L) in Groundwater

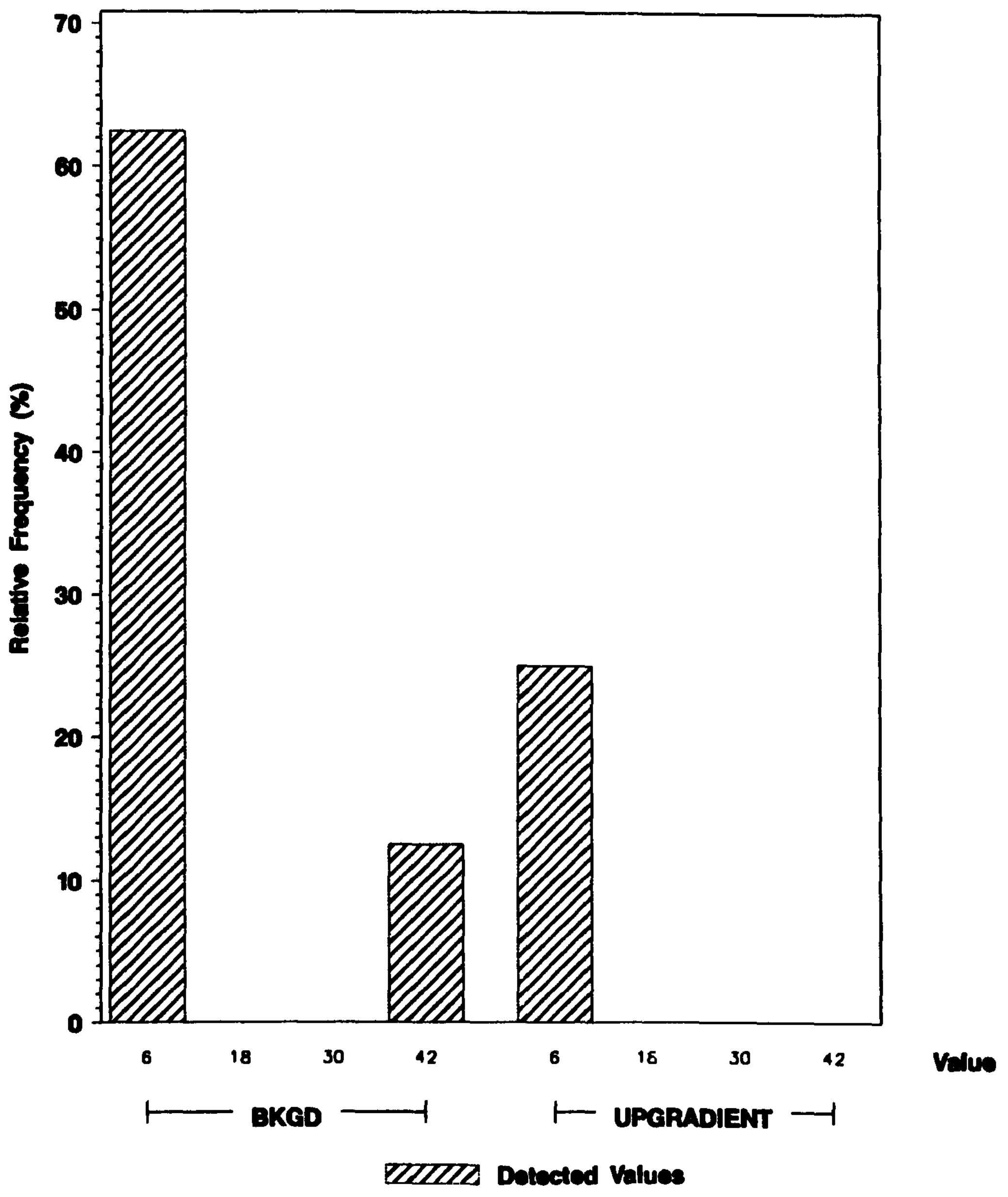
ANALYTE=CESIUM-137



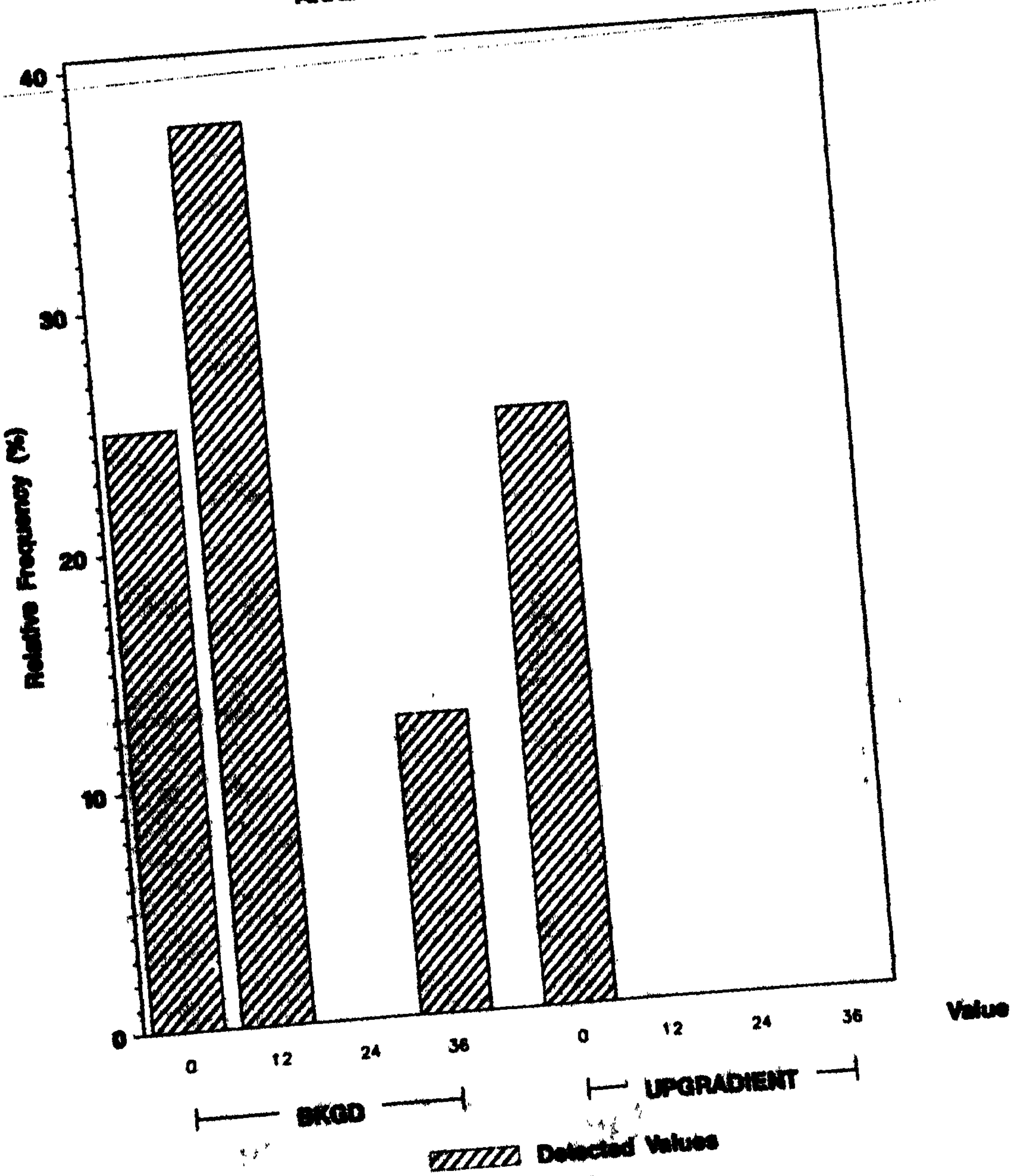
Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total GROSS ALPHA (pCi/L) in Groundwater

ANALYTE=GROSS ALPHA



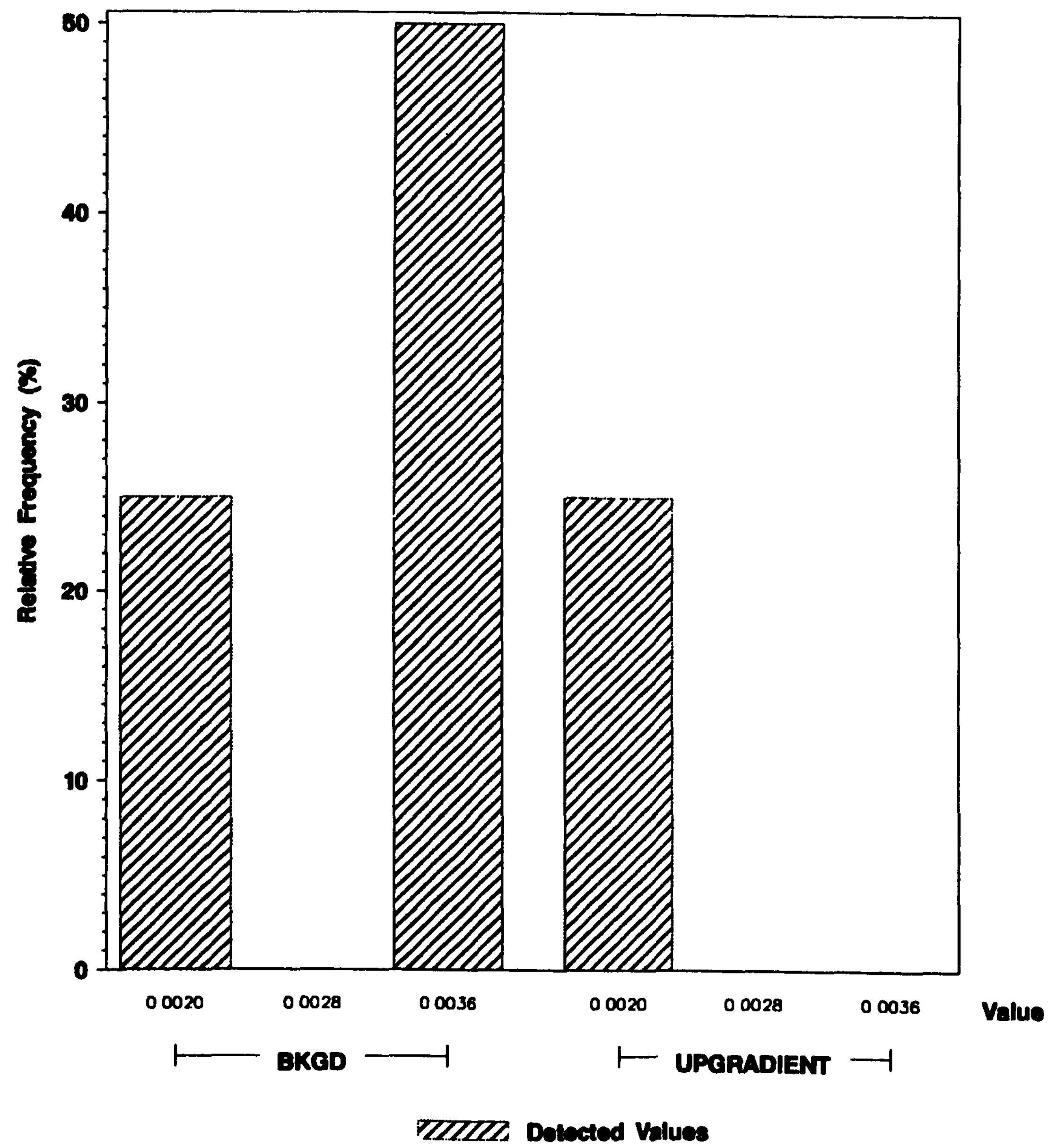
Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram
Total GROSS BETA (pCi/L) in Groundwater
ANALYTE=GROSS BETA



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total PLUTONIUM – 238 (pCi/L) in Groundwater

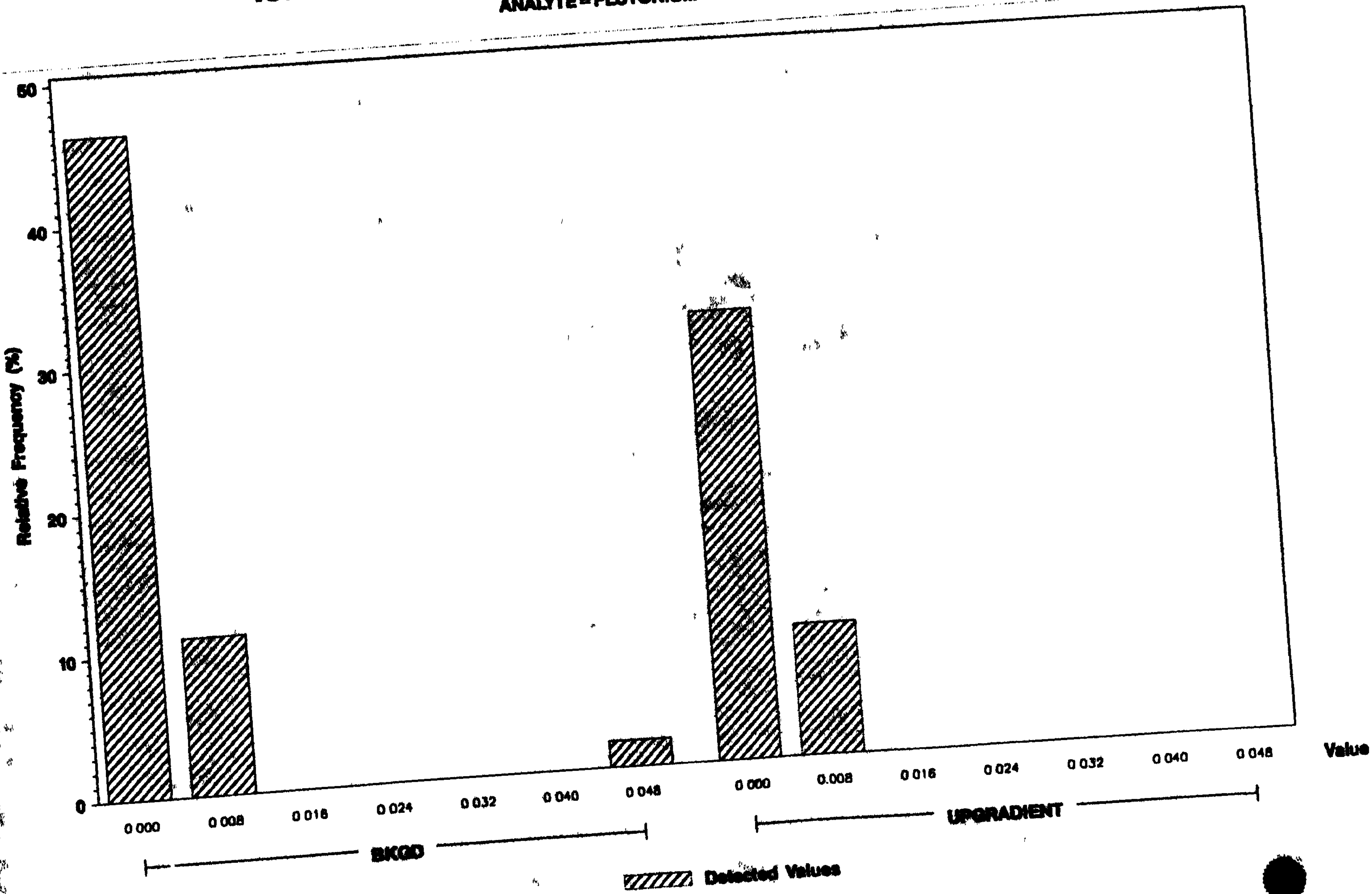
ANALYTE = PLUTONIUM – 238



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total PLUTONIUM – 239/240 (pCi/L) In Groundwater

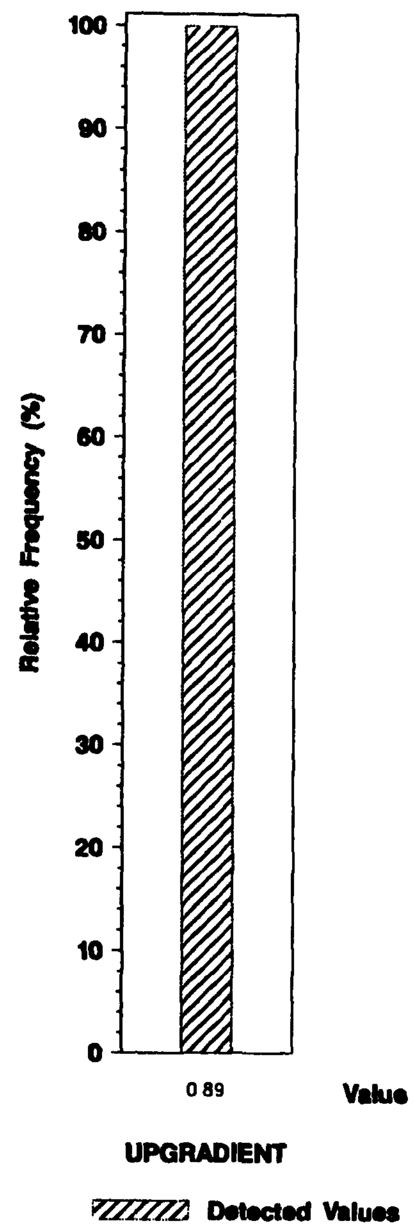
ANALYTE = PLUTONIUM – 239/240



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total TOTAL RADIOCESIUM (pCi/L) in Groundwater

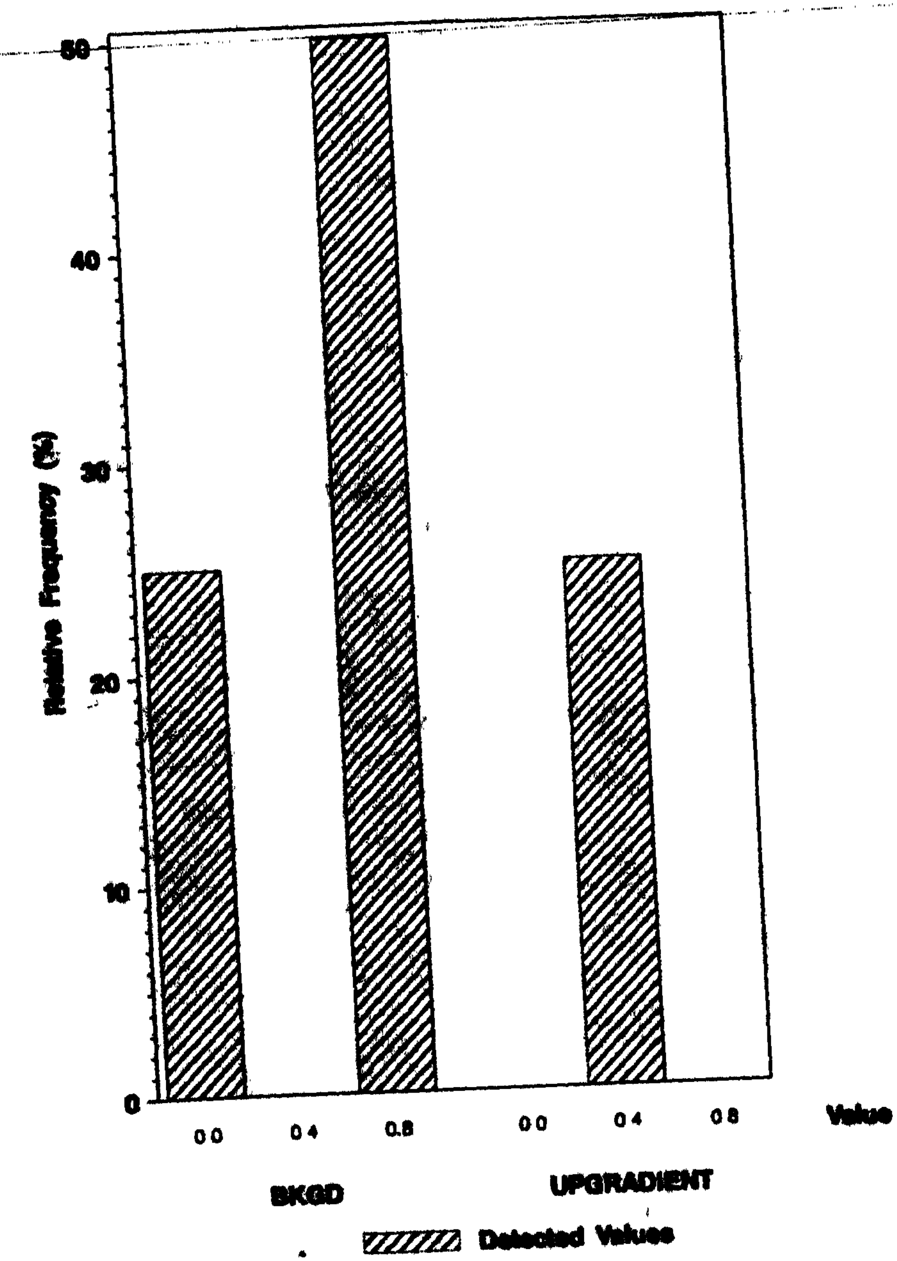
ANALYTE=TOTAL RADIOCESIUM



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total RADIUM – 226 (pCi/L) in Groundwater

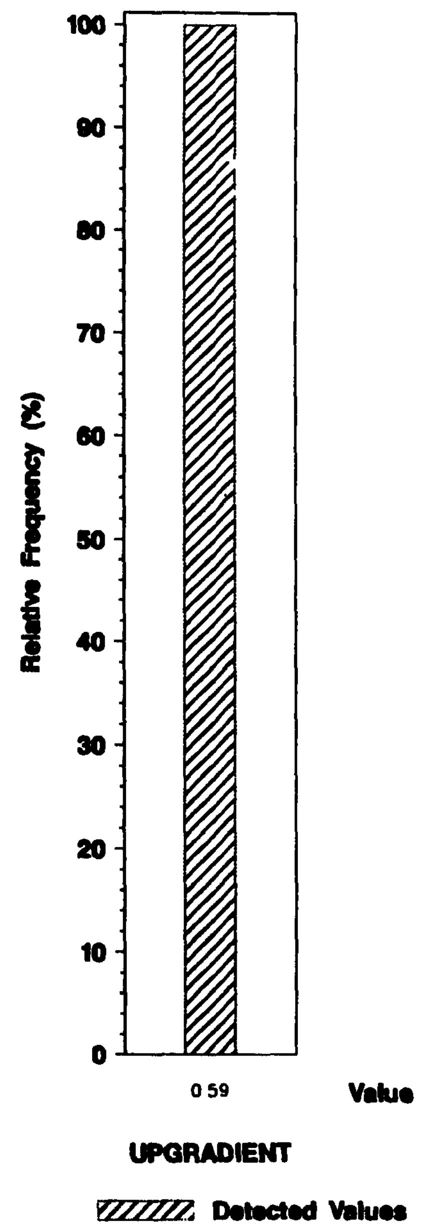
ANALYTE = RADIUM – 226



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total RADIUM – 228 (pCi/L) in Groundwater

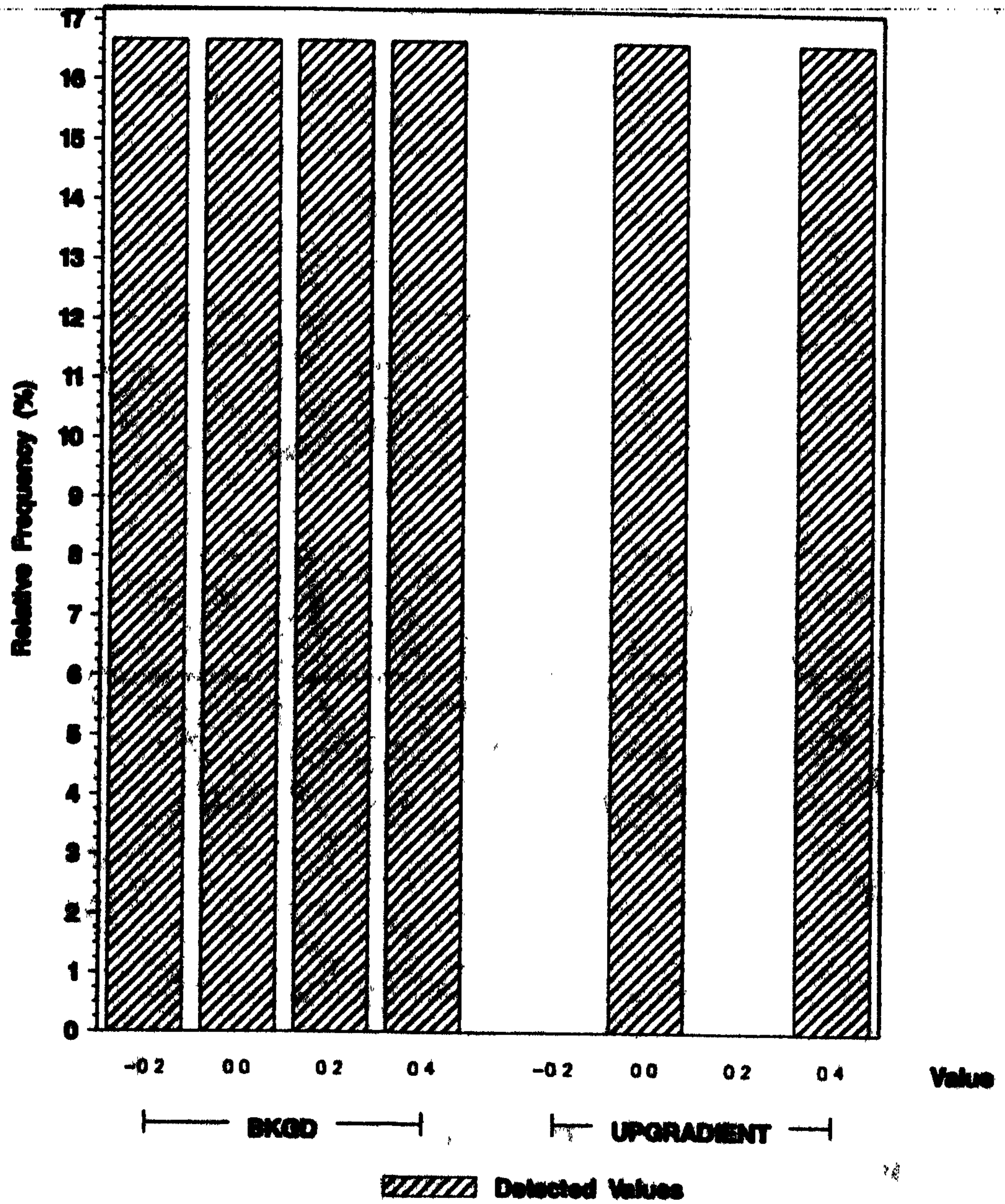
ANALYTE = RADIUM – 228



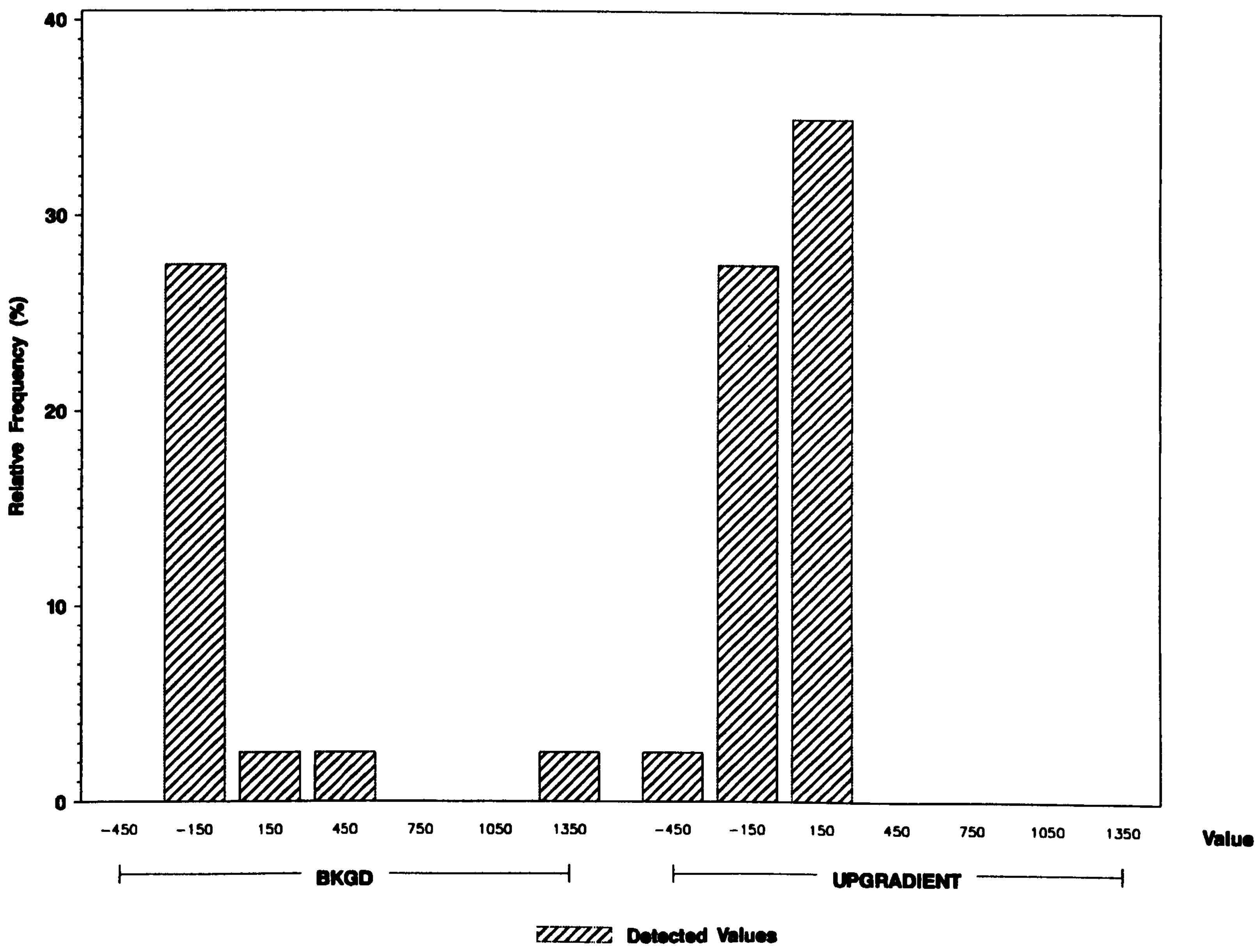
Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram

Total STRONTIUM–89,90 (pCi/L) in Groundwater

ANALYTE = STRONTIUM – 89,90



Background vs OU7 Upgradient Groundwater (LHSU) Frequency Histogram
Total TRITIUM (pCi/L) in Groundwater
ANALYTE=TRITIUM



Groundwater

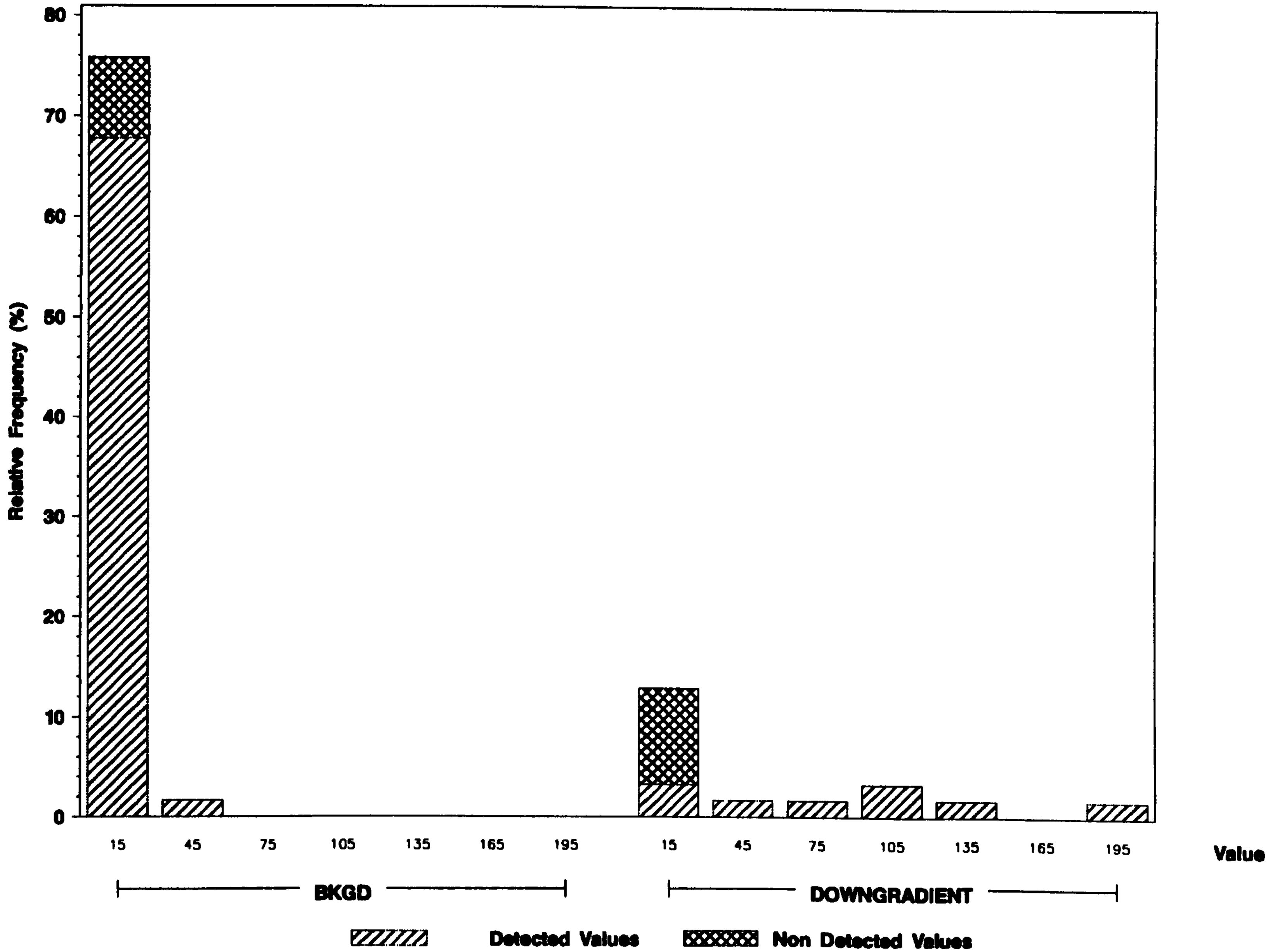
(Dissolved)

Background vs OU 7 Downgradient LHSU

Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved MANGANESE (ug/L) in Groundwater

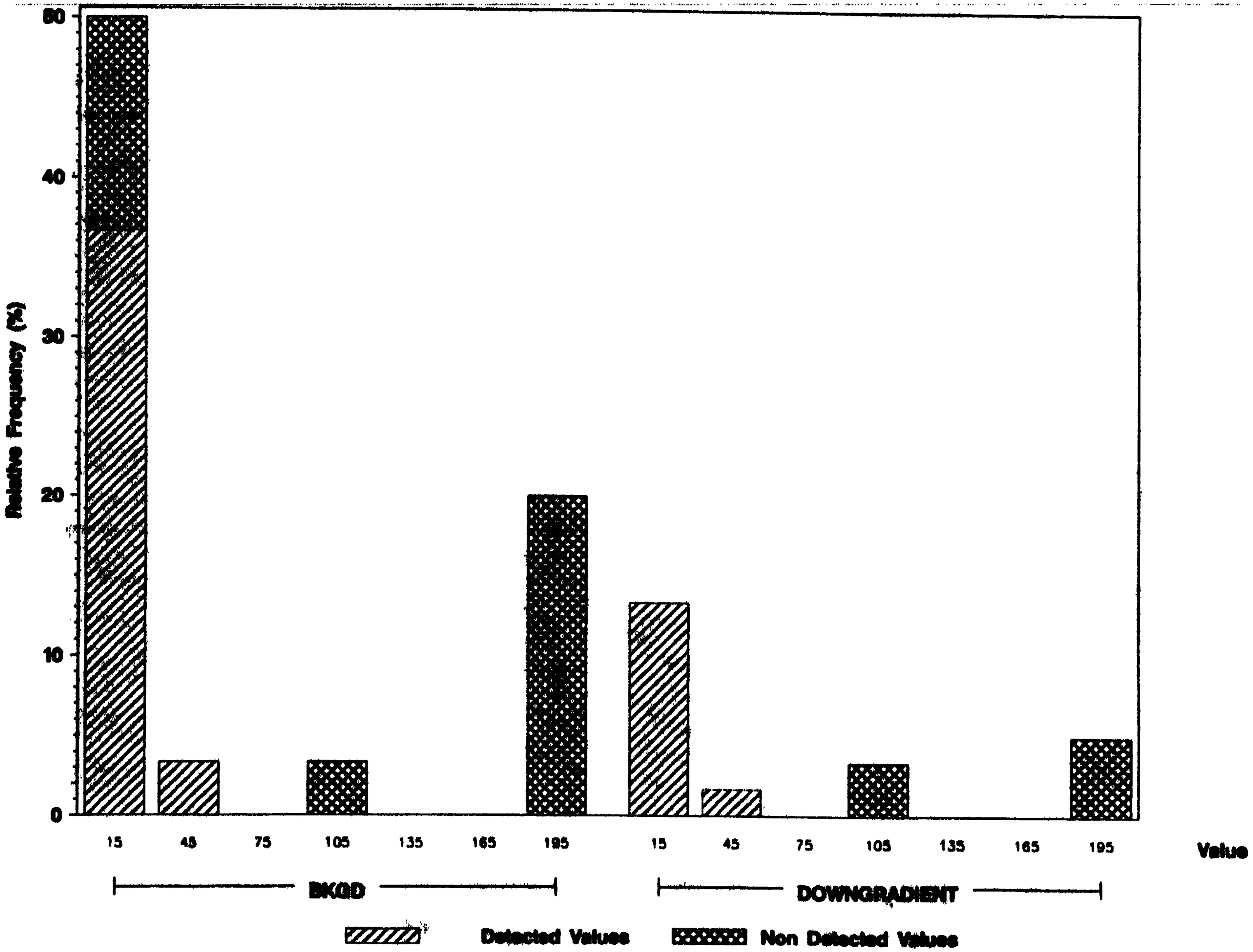
ANALYTE=MANGANESE



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved MOLYBDENUM (ug/L) in Groundwater

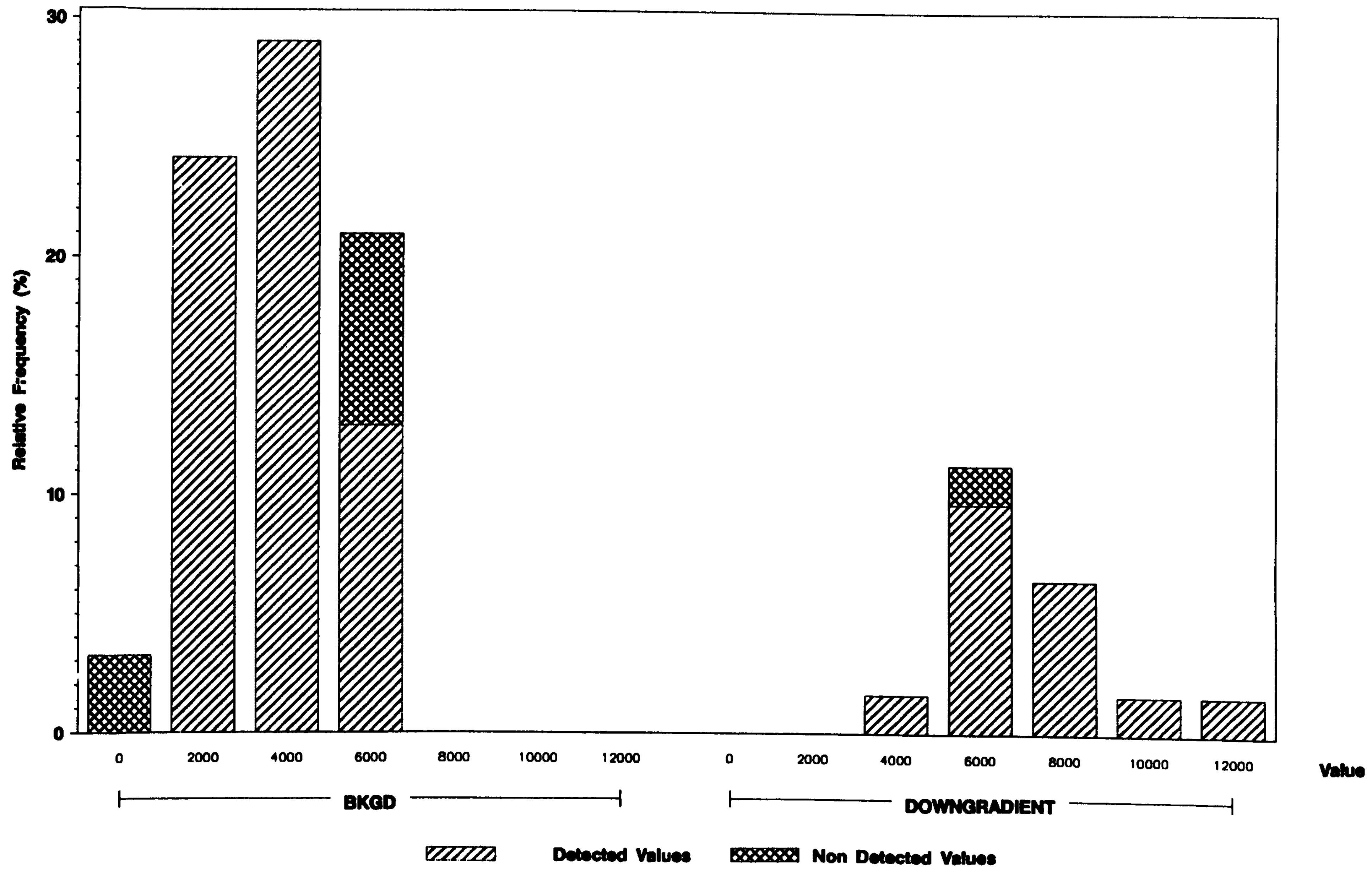
ANALYTE = MOLYBDENUM



Backg●und vs OU7 Downgradient Gro●dwater (LHSU) Frequency Histogram

Dissolved POTASSIUM (ug/L) in Groundwater

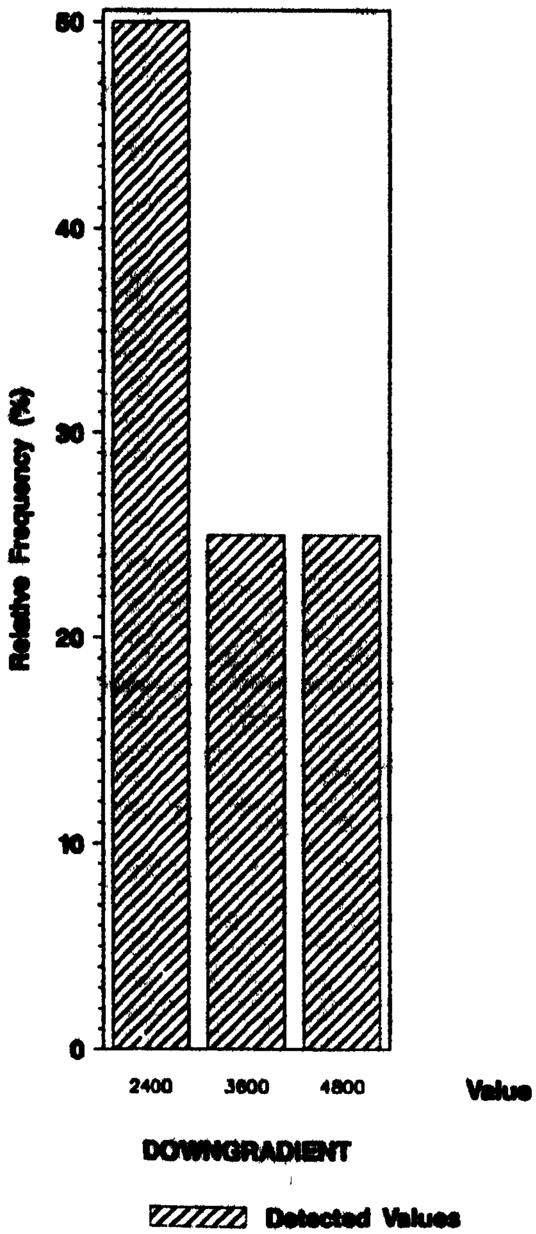
ANALYTE=POTASSIUM



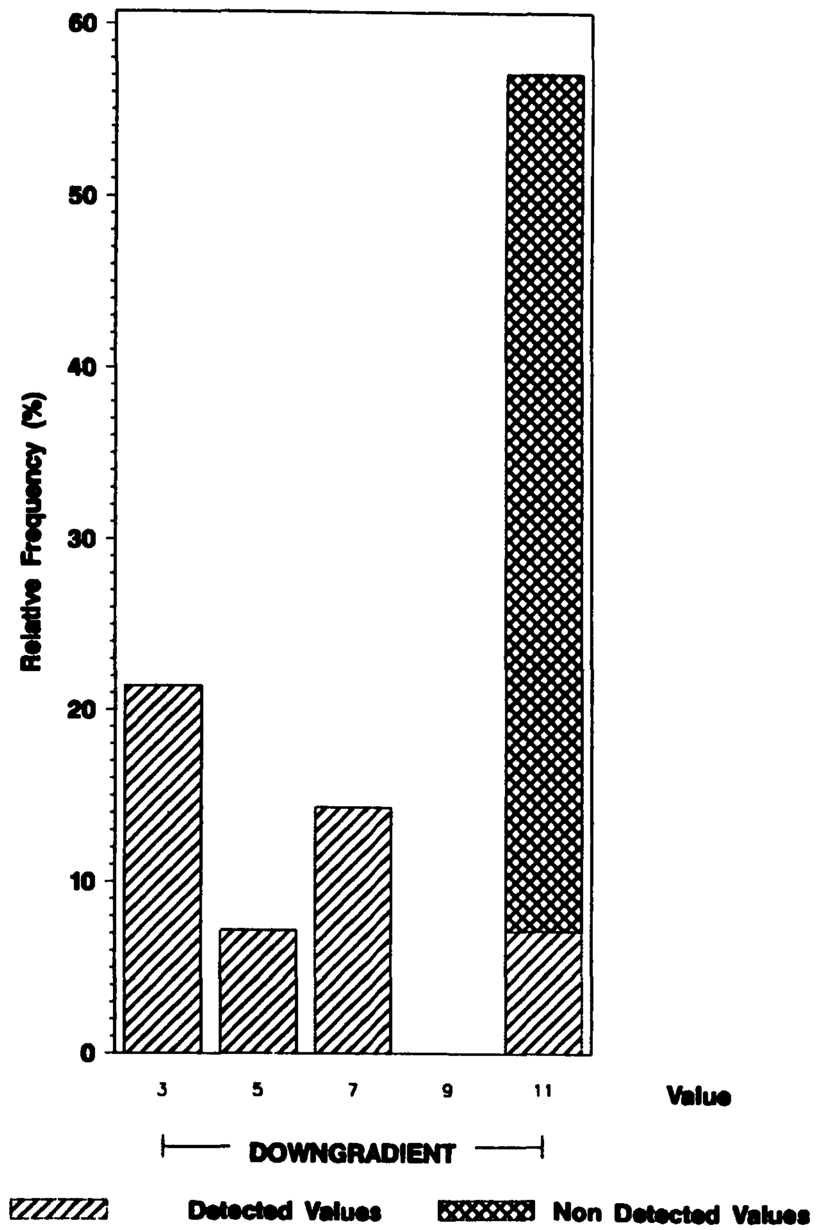
Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved SILICON (ug/L) in Groundwater

ANALYTE = SILICON



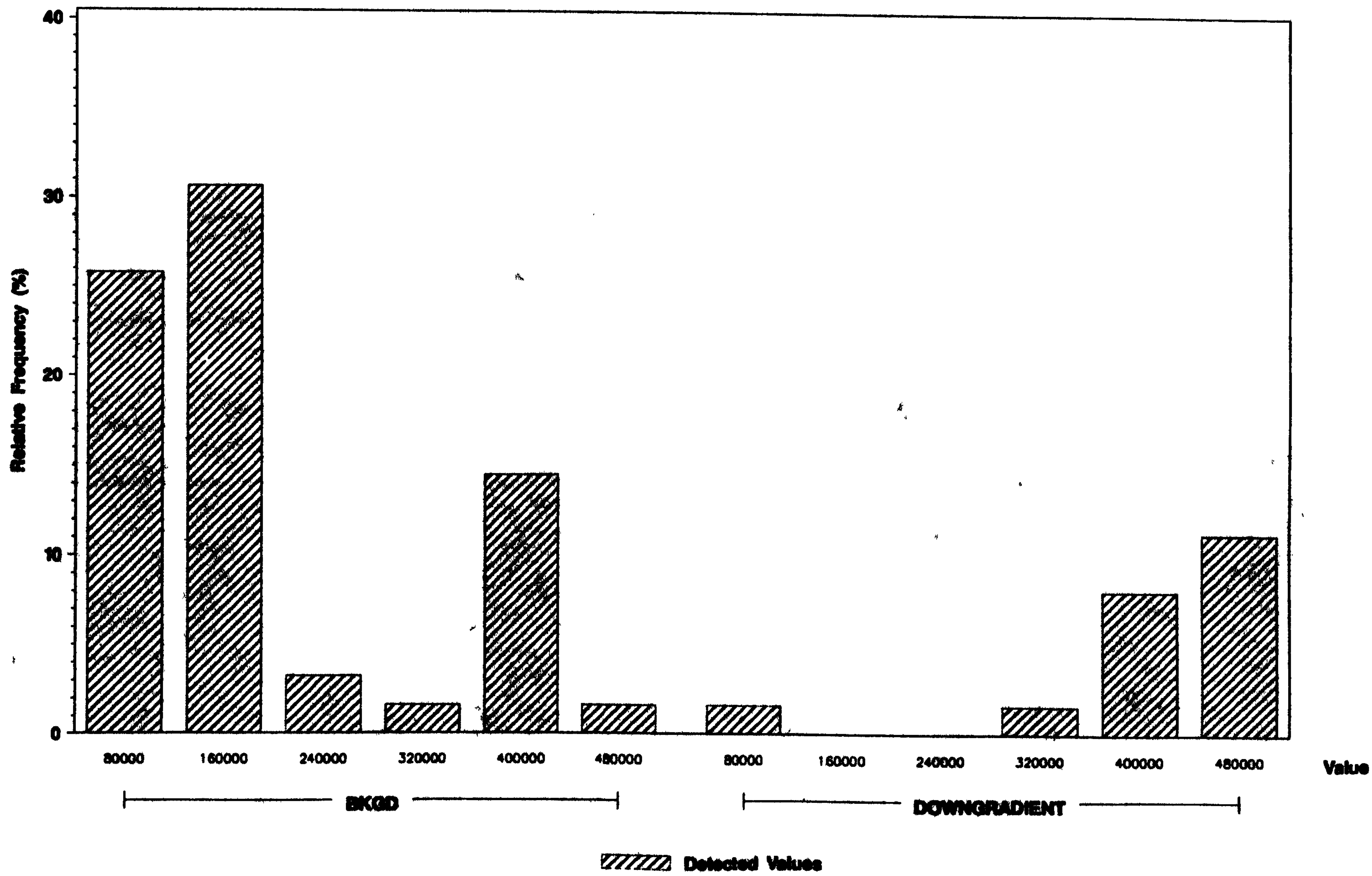
Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram
Dissolved SILVER (ug/L) in Groundwater
ANALYTE=SILVER



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved SODIUM (ug/L) in Groundwater

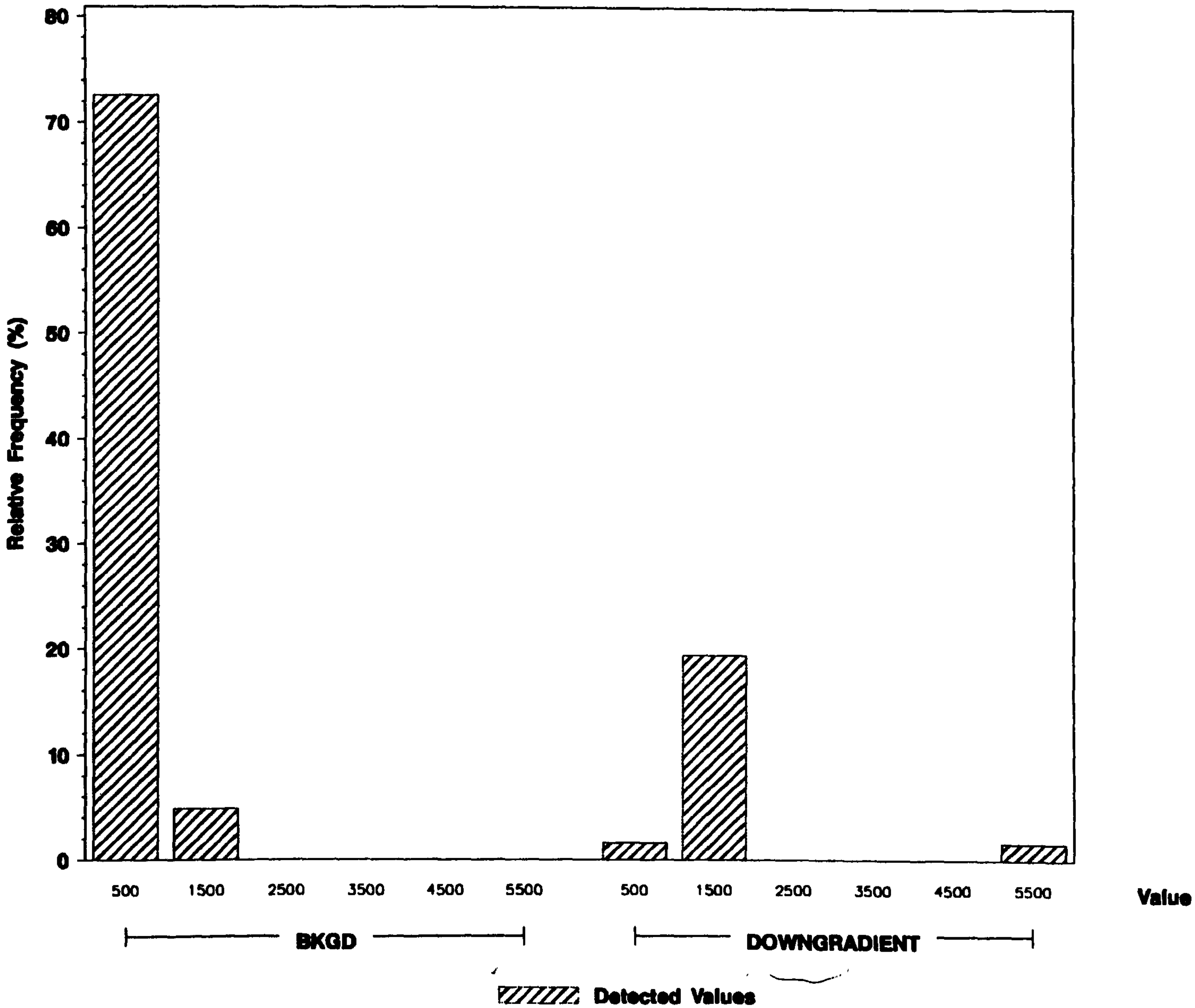
ANALYTE=SODIUM



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved STRONTIUM (ug/L) in Groundwater

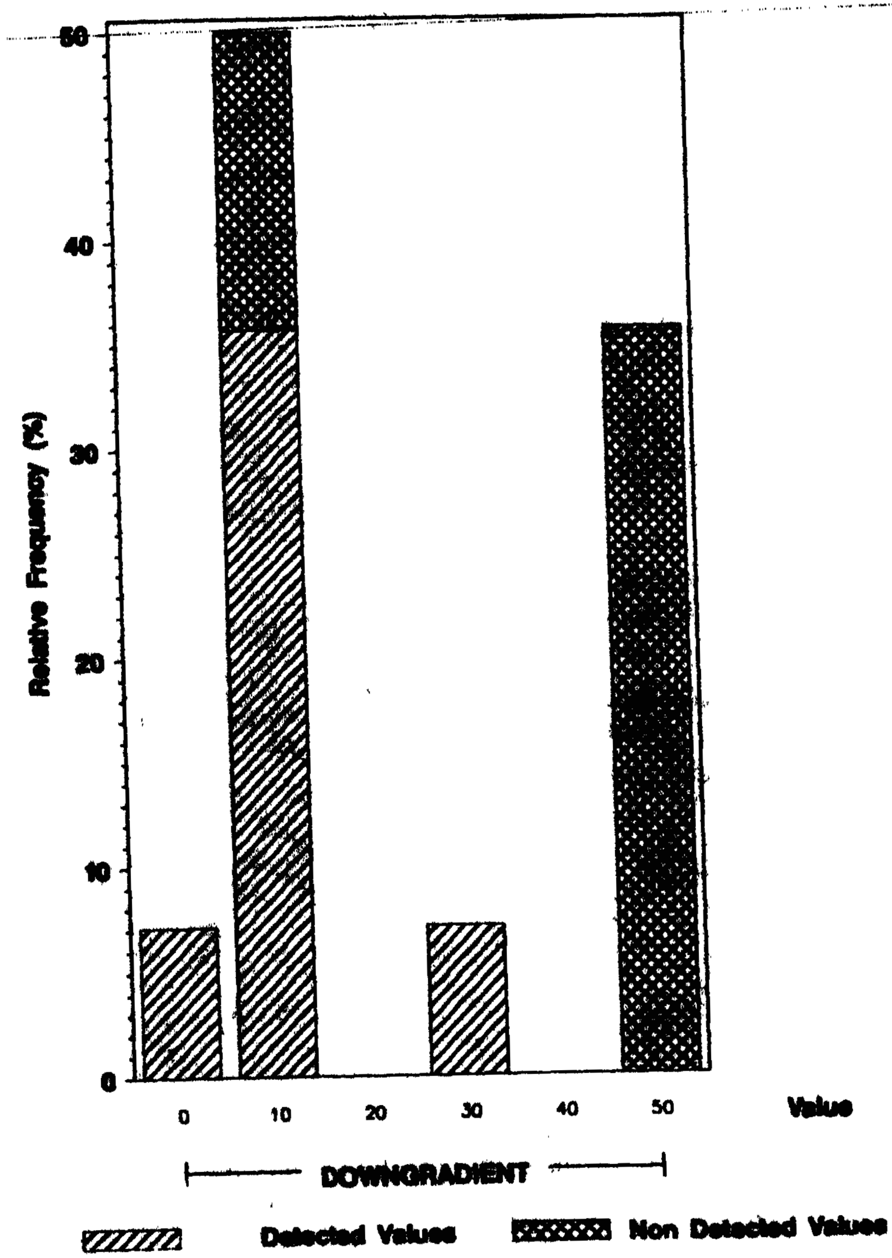
ANALYTE = STRONTIUM



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved VANADIUM (ug/L) in Groundwater

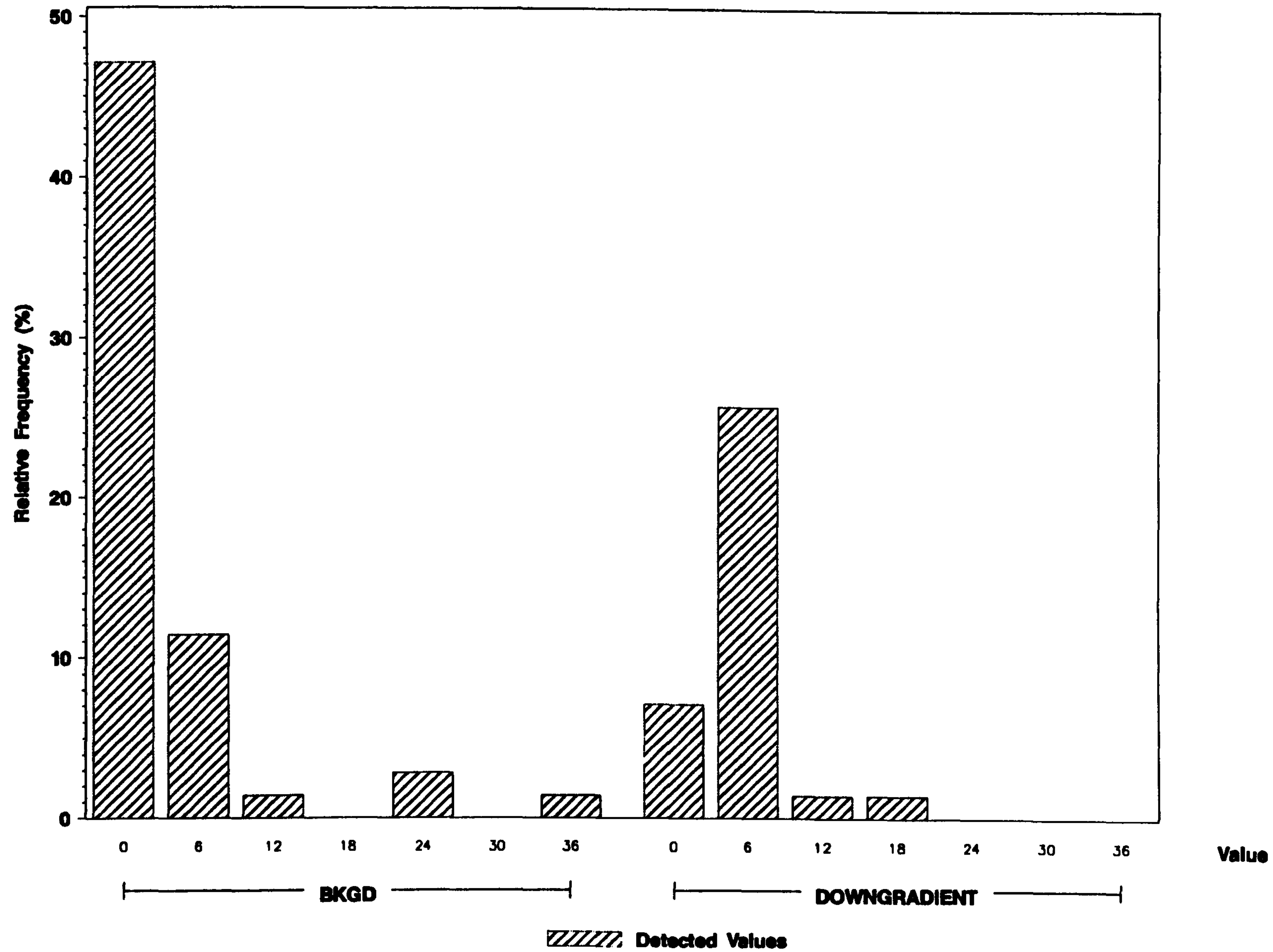
ANALYTE=VANADIUM



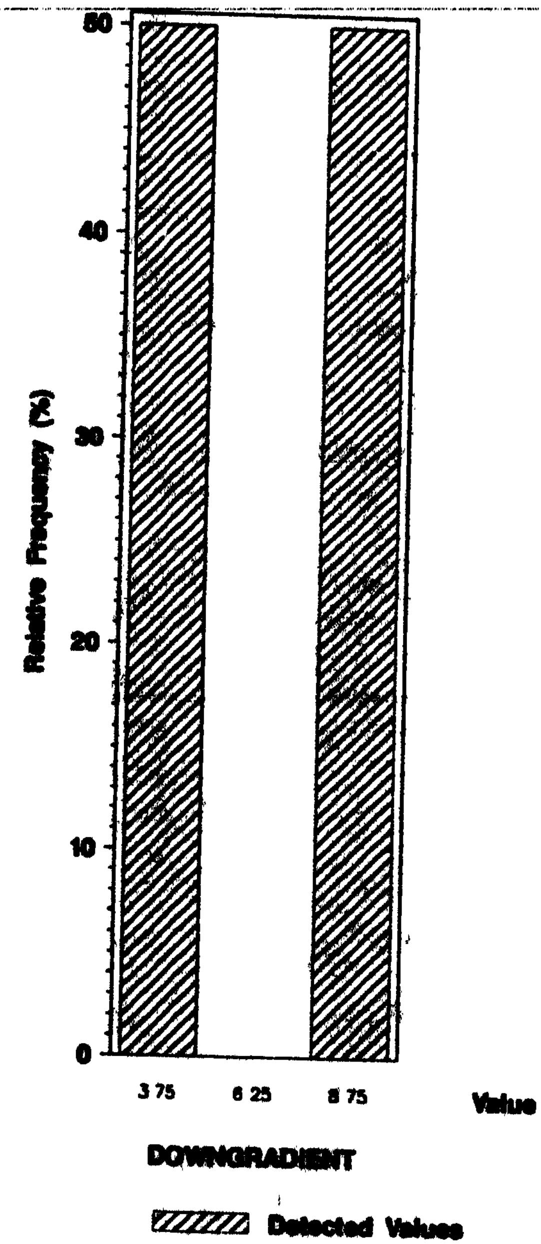
Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved GROSS ALPHA (pCi/L) in Groundwater

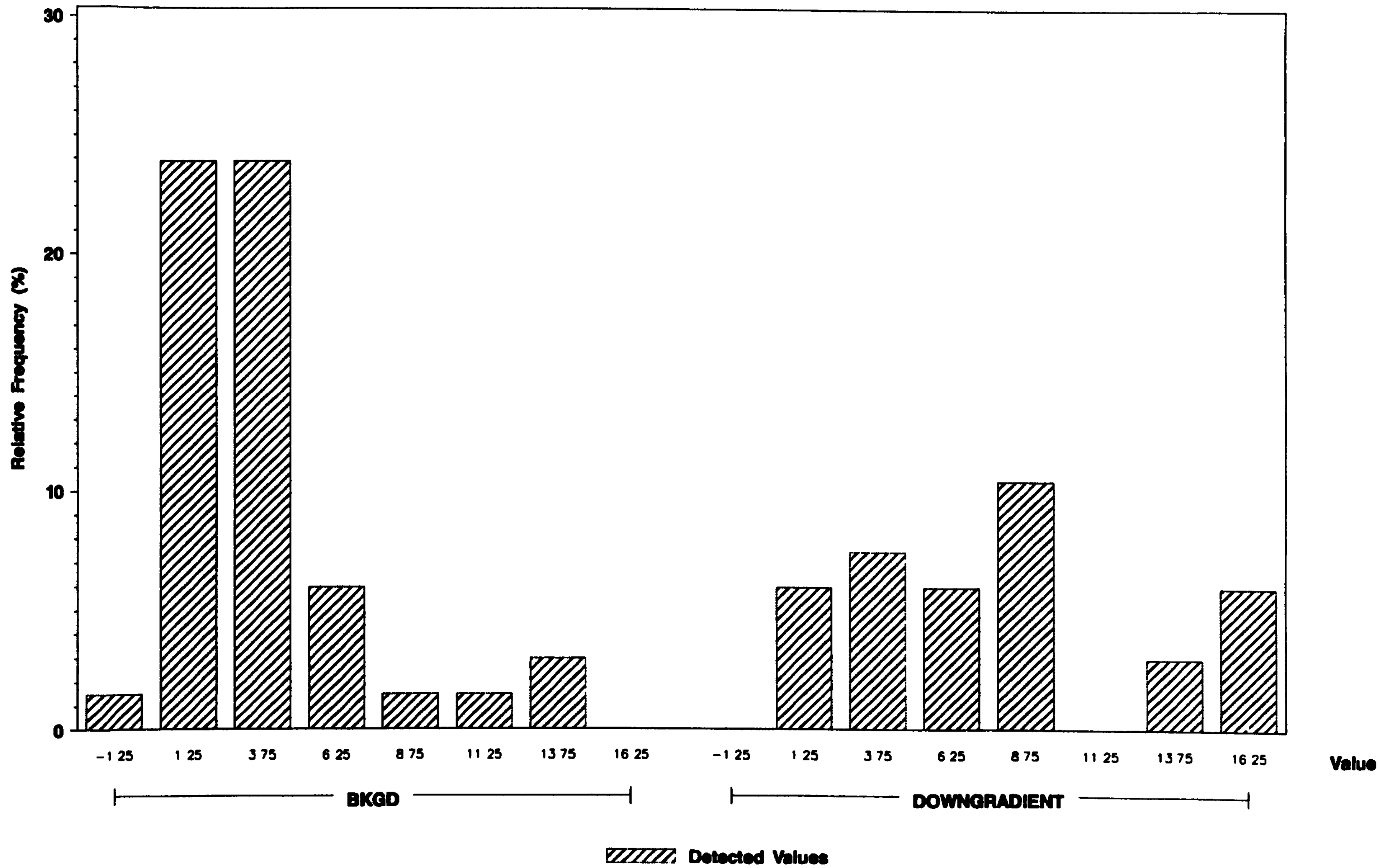
ANALYTE=GROSS ALPHA



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram
Dissolved GROSS ALPHA – SUSPENDED (pCi/L) in Groundwater
ANALYTE=GROSS ALPHA – SUSPENDED



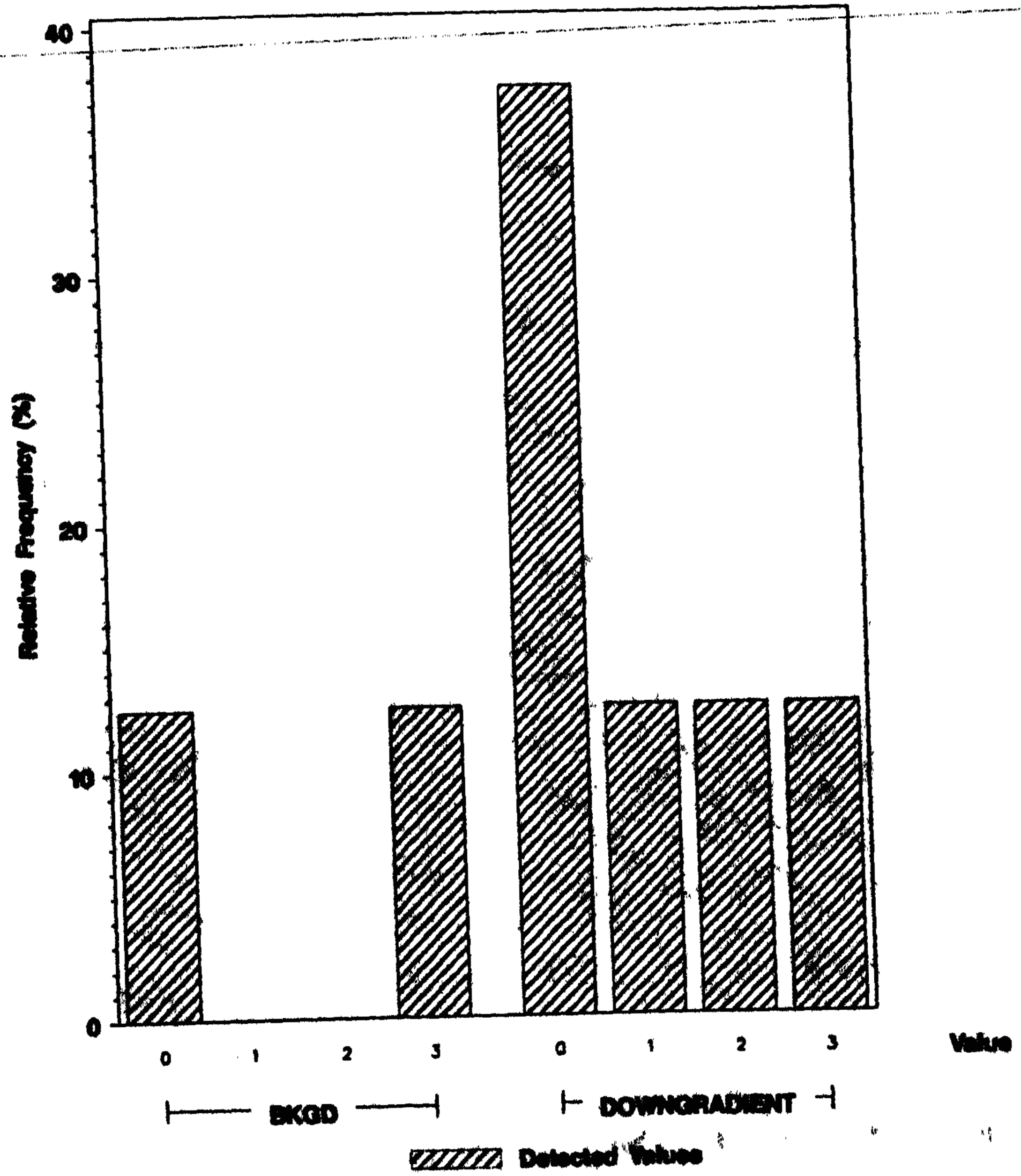
Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram
Dissolved GROSS BETA (pCi/L) in Groundwater
ANALYTE=GROSS BETA



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved RADIUM – 226 (pCi/L) in Groundwater

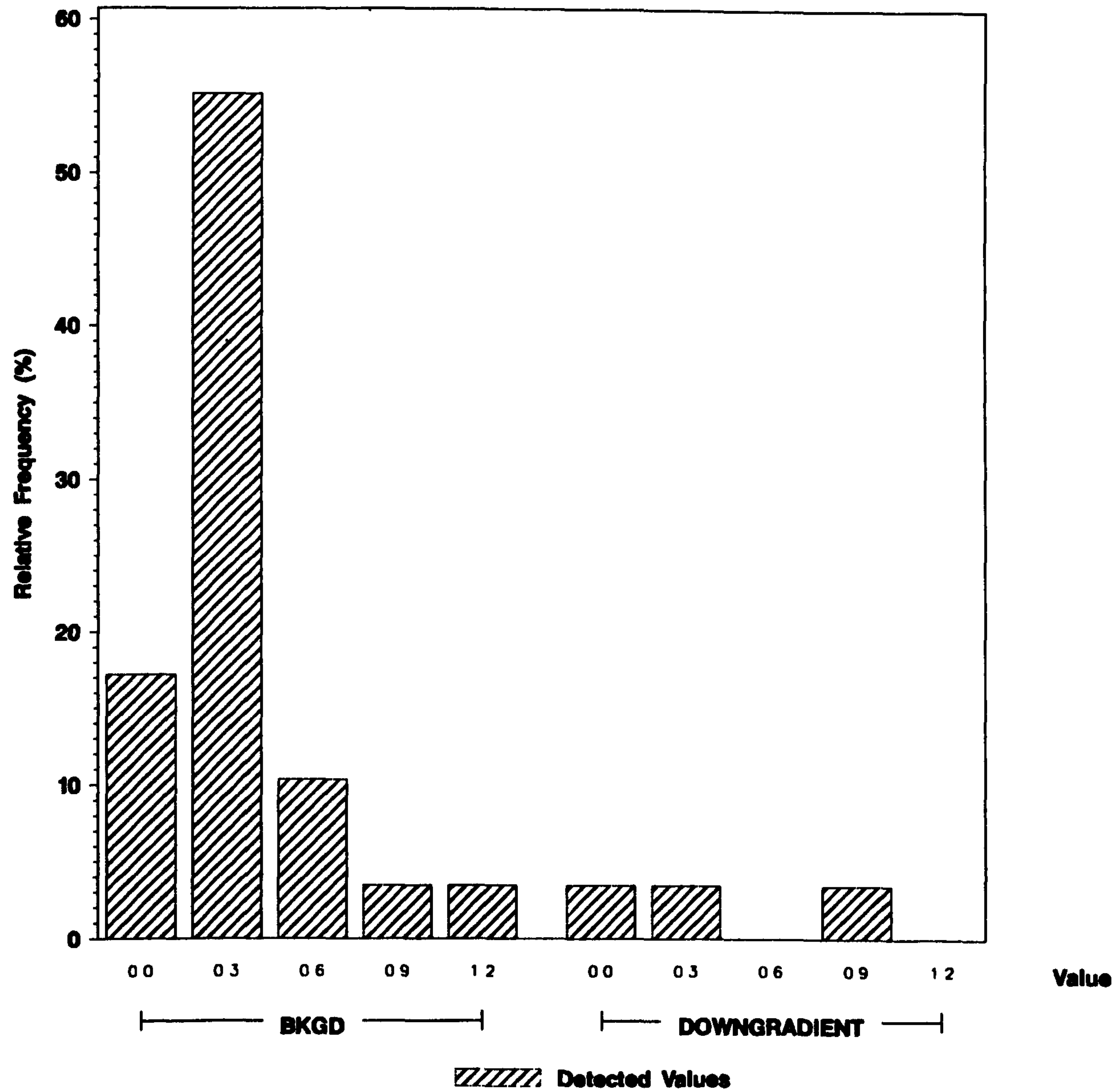
ANALYTE = RADIUM – 226



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved STRONTIUM-89,90 (pCi/L) in Groundwater

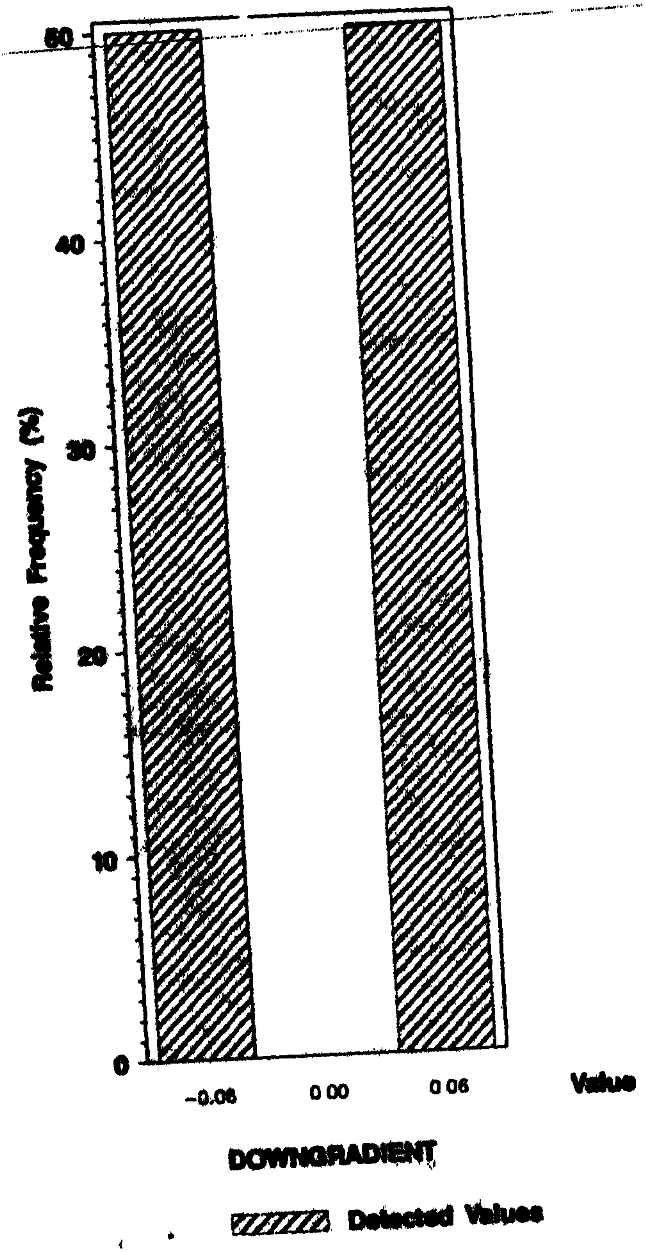
ANALYTE=STRONTIUM-89,90



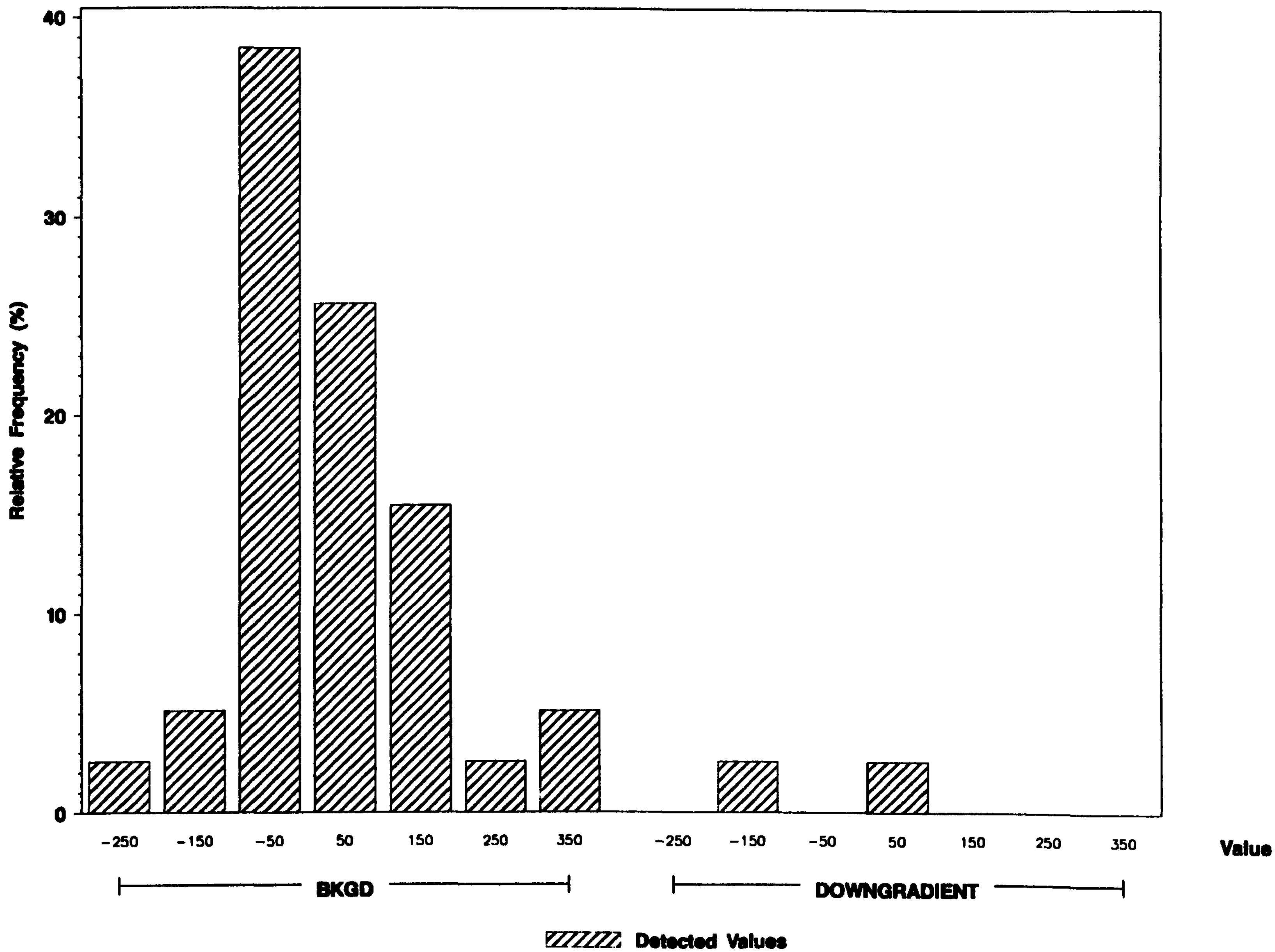
Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved STRONTIUM-90 (pCi/L) in Groundwater

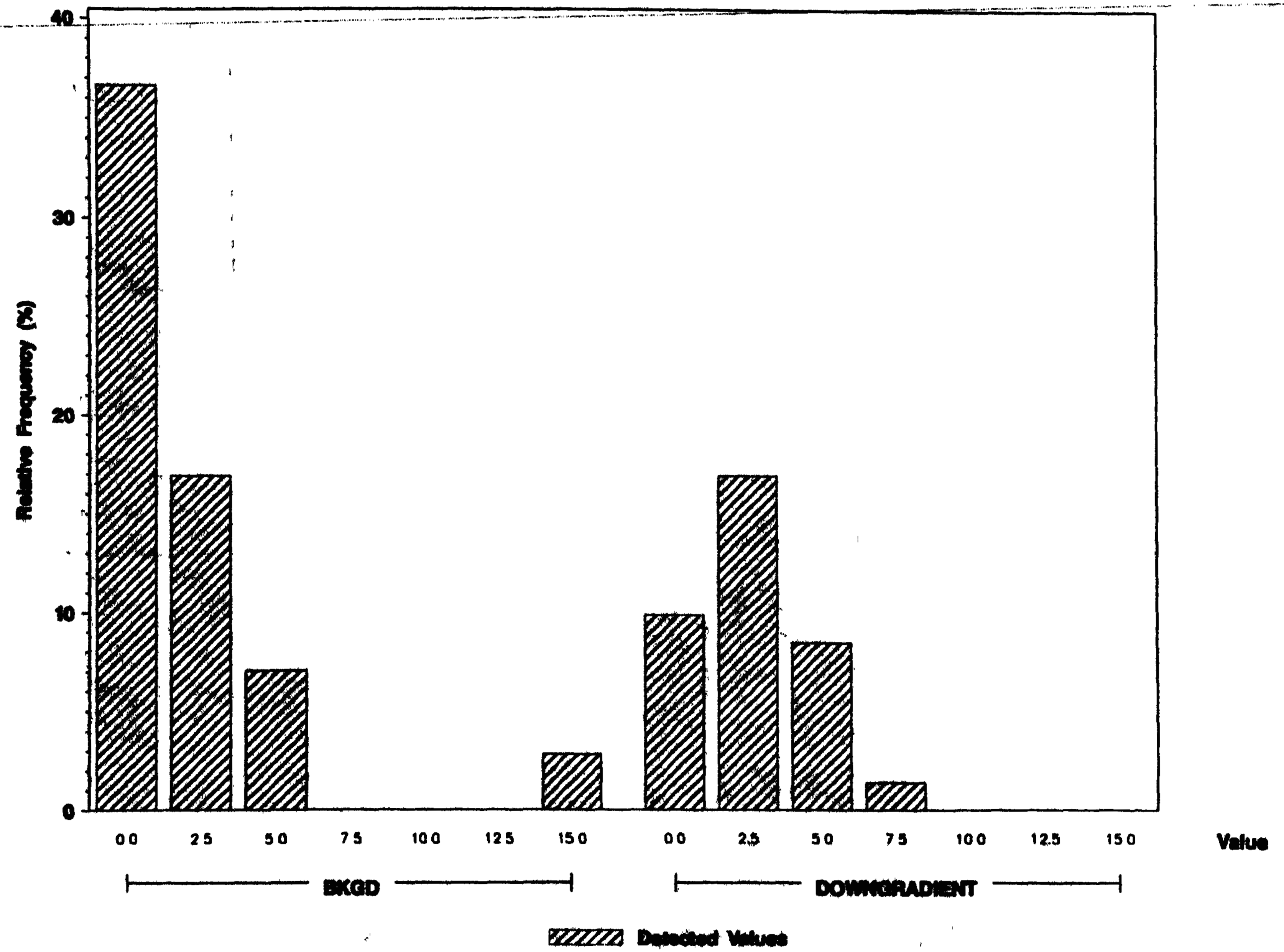
ANALYTE=STRONTIUM-90



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram
Dissolved TRITIUM (pCi/L) in Groundwater
ANALYTE = TRITIUM



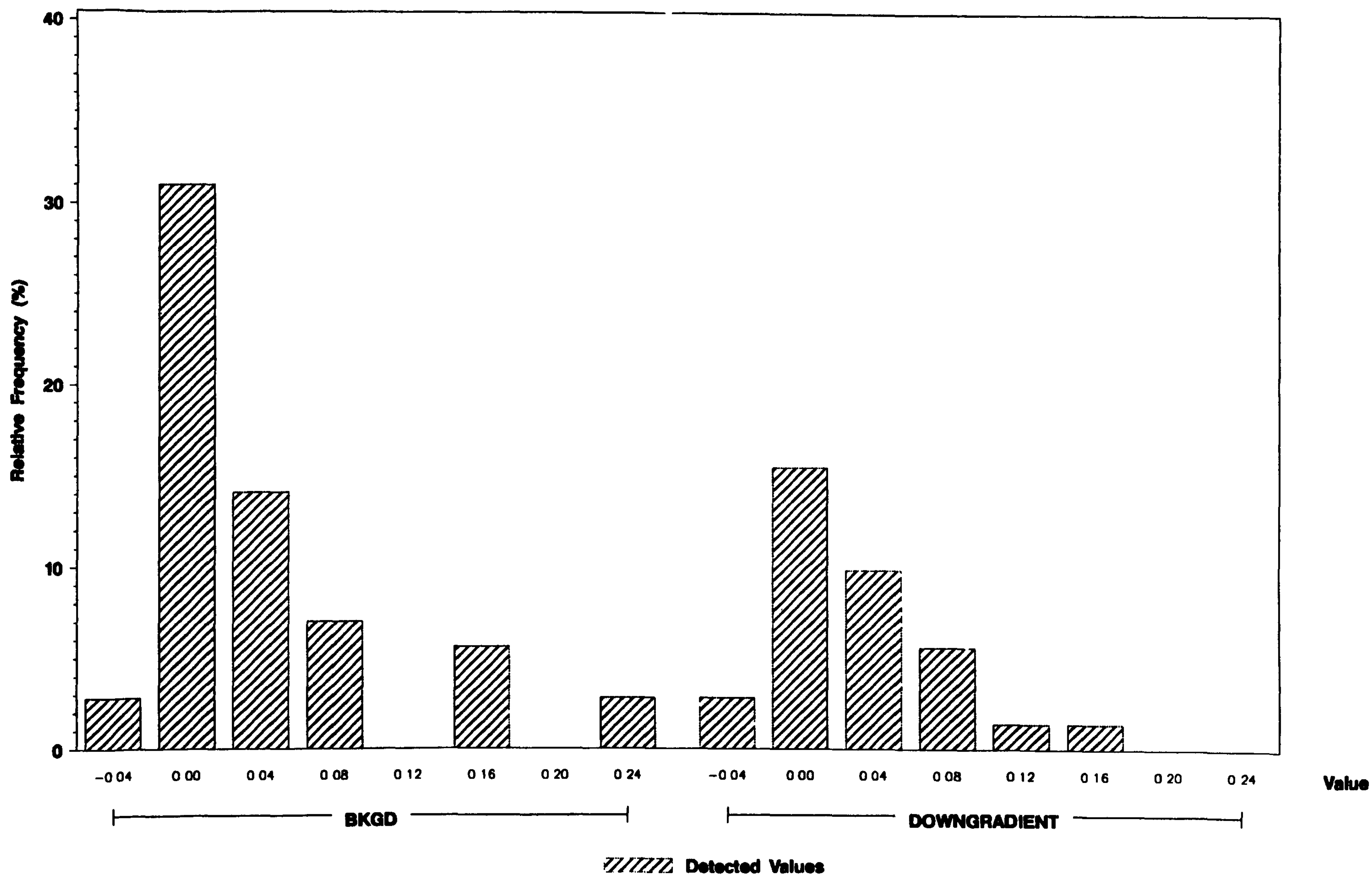
Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram
Dissolved URANIUM-233,-234 (pCi/L) In Groundwater
ANALYTE=URANIUM-233,-234



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved URANIUM-235 (pCi/L) in Groundwater

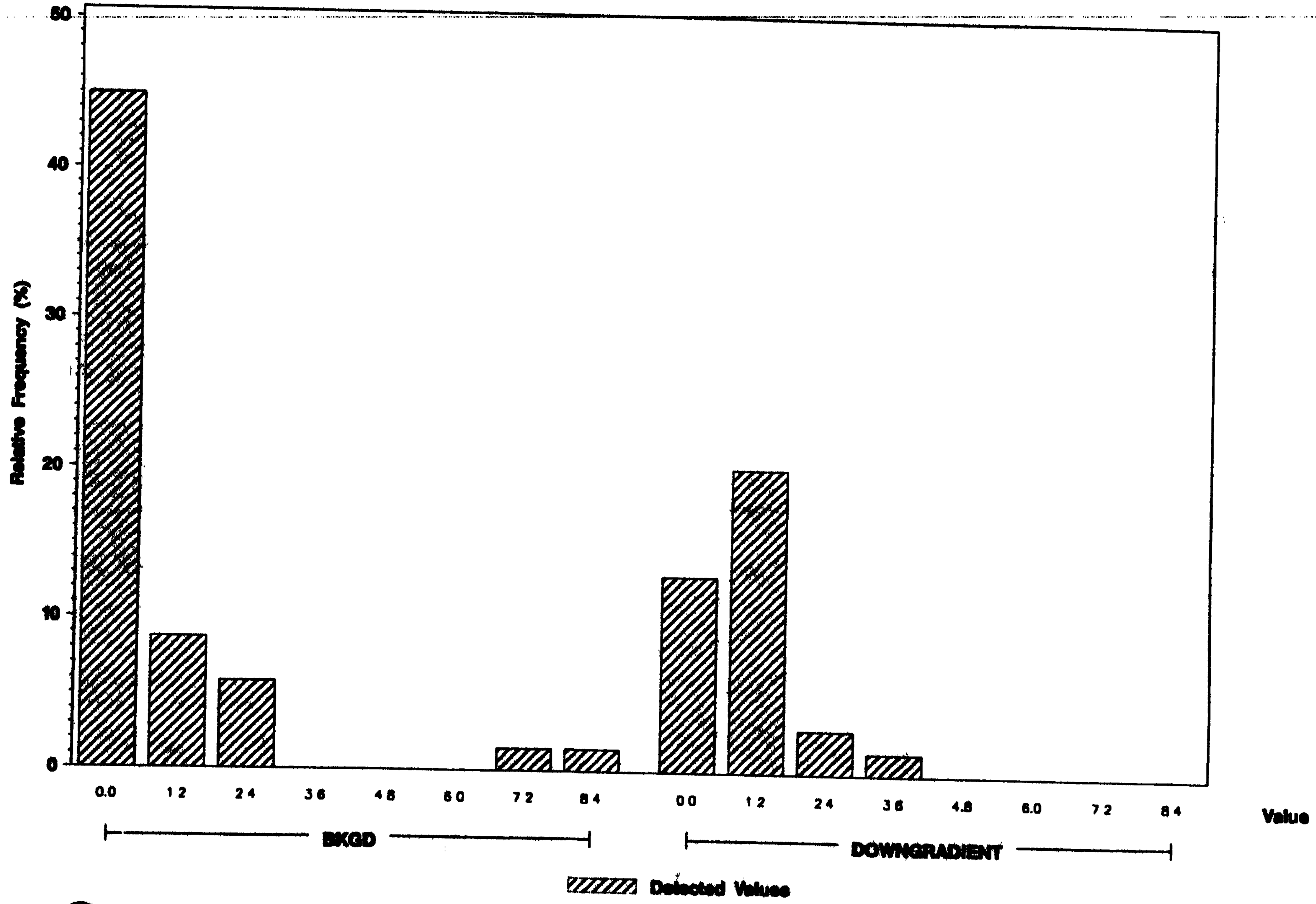
ANALYTE = URANIUM-235



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved URANIUM – 238 (pCi/L) in Groundwater

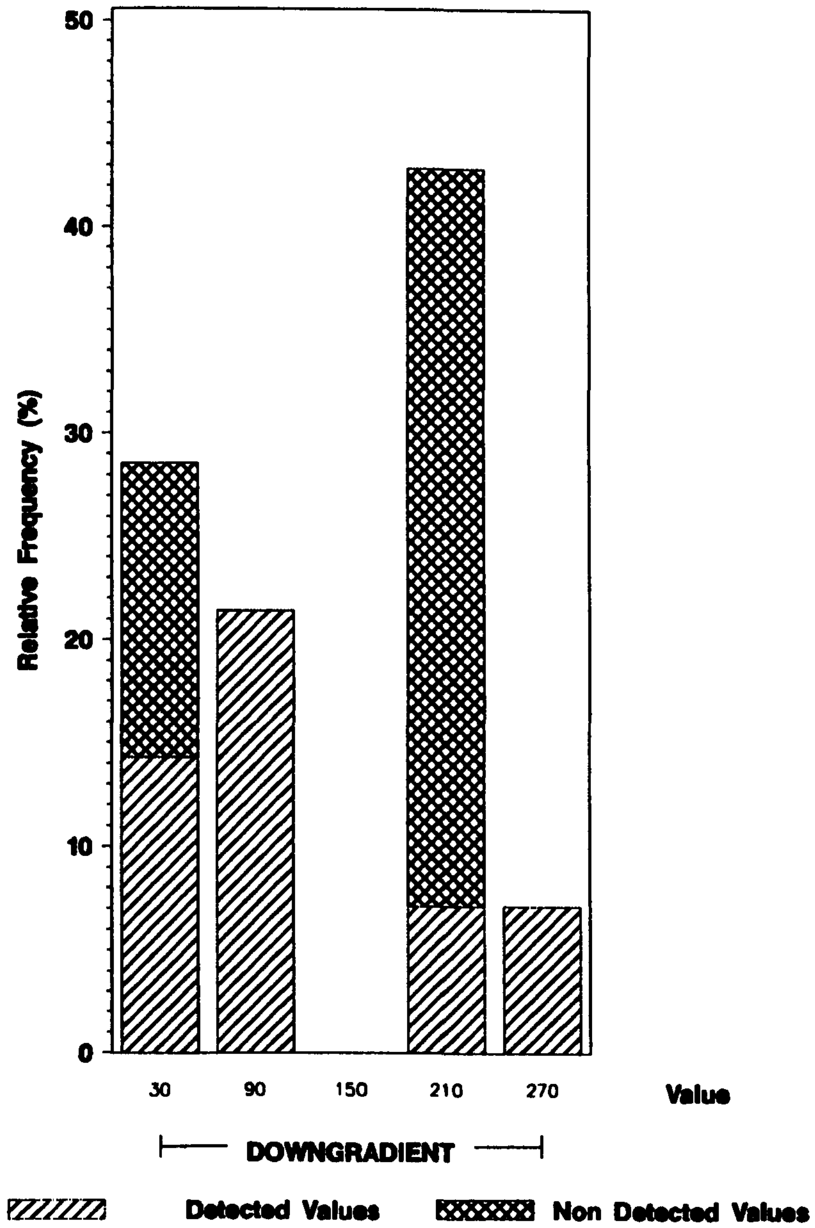
ANALYTE = URANIUM – 238



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved ALUMINUM (ug/L) in Groundwater

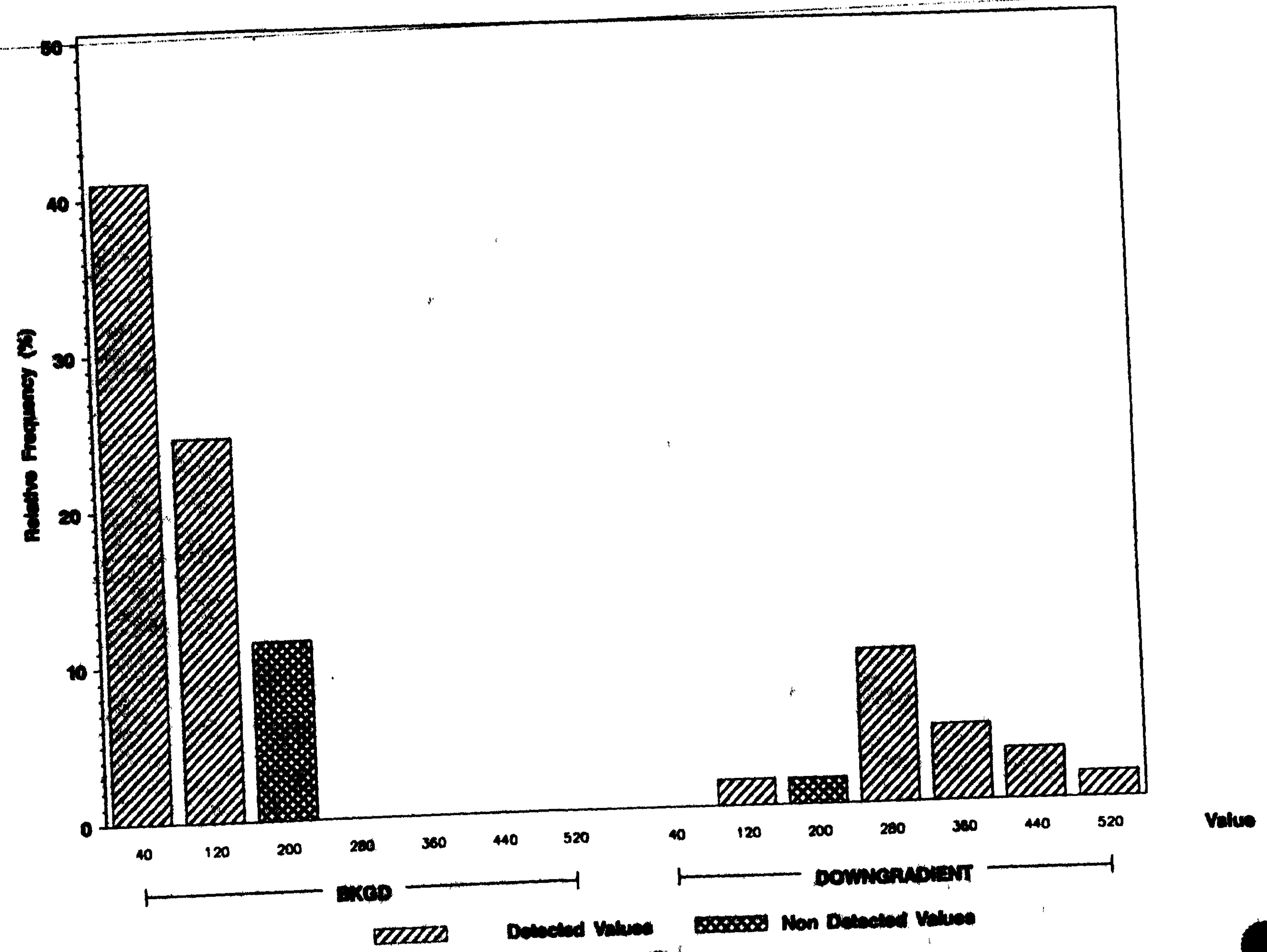
ANALYTE = ALUMINUM



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved BARIUM (ug/L) in Groundwater

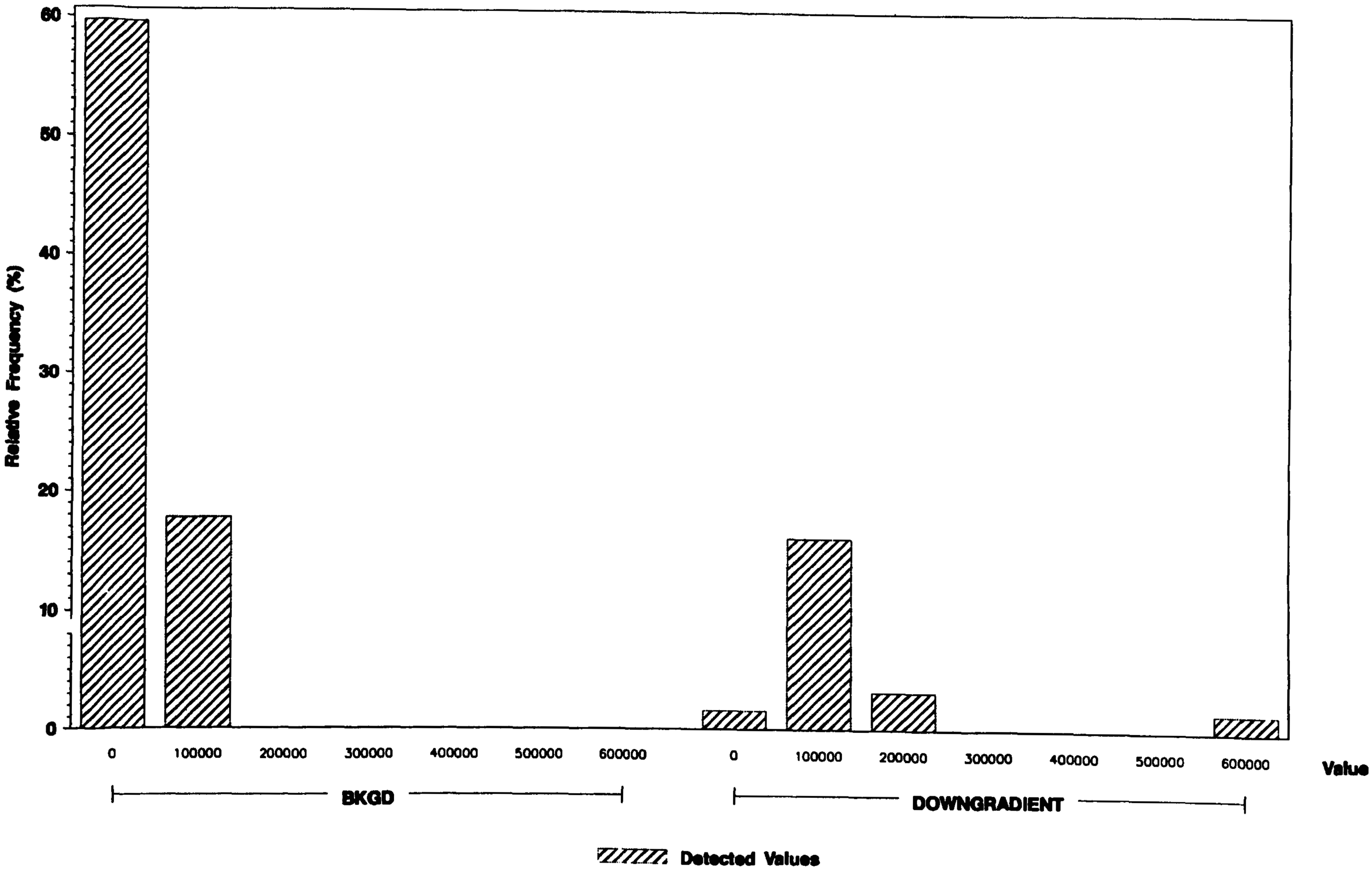
ANALYTE=BARIUM



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved CALCIUM (ug/L) in Groundwater

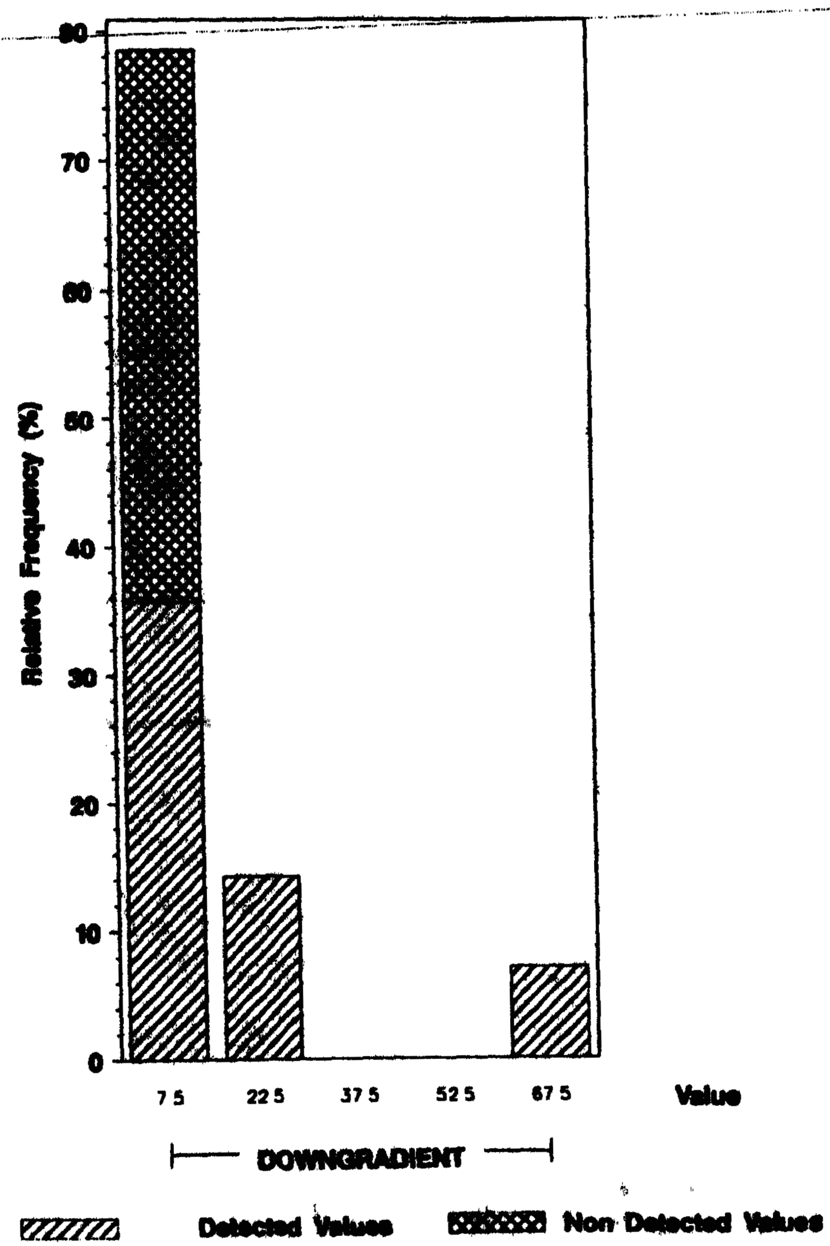
ANALYTE=CALCIUM



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved CHROMIUM (ug/L) in Groundwater

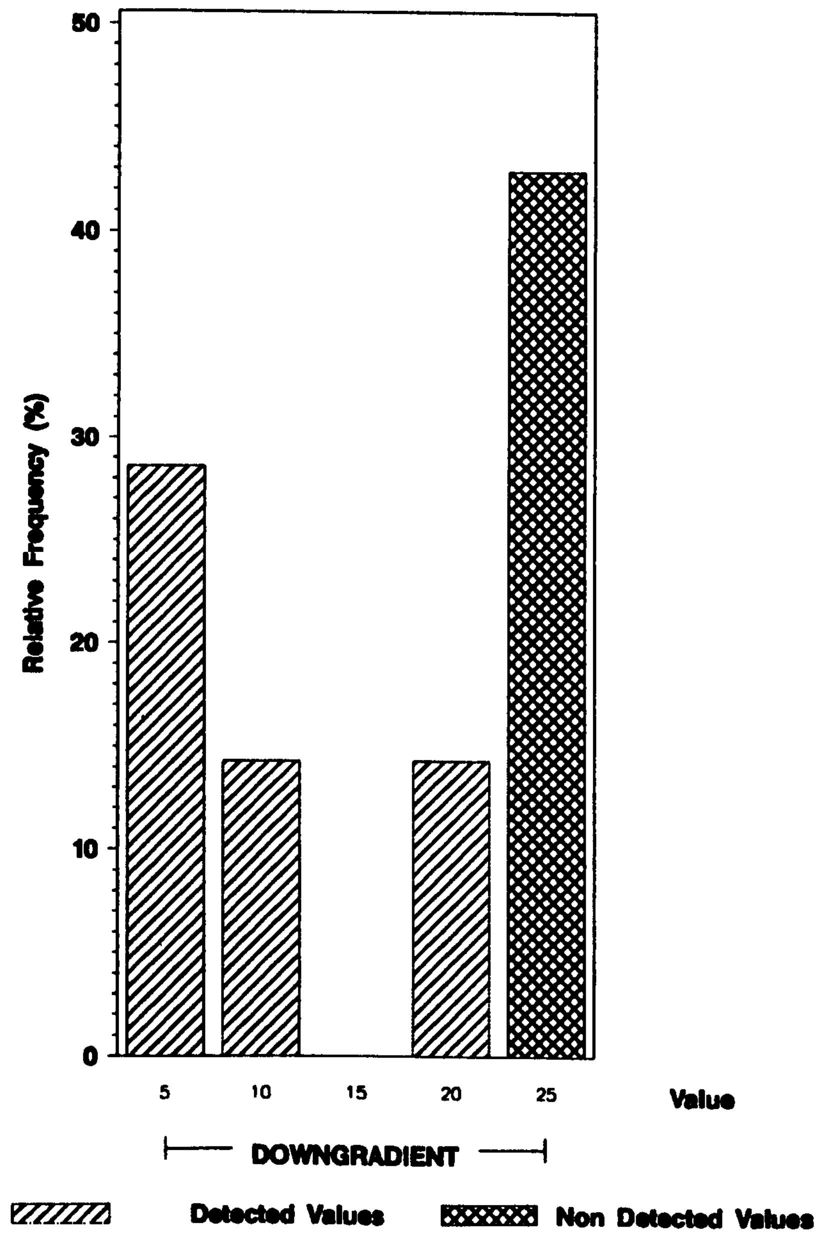
ANALYTE = CHROMIUM



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved COPPER (ug/L) in Groundwater

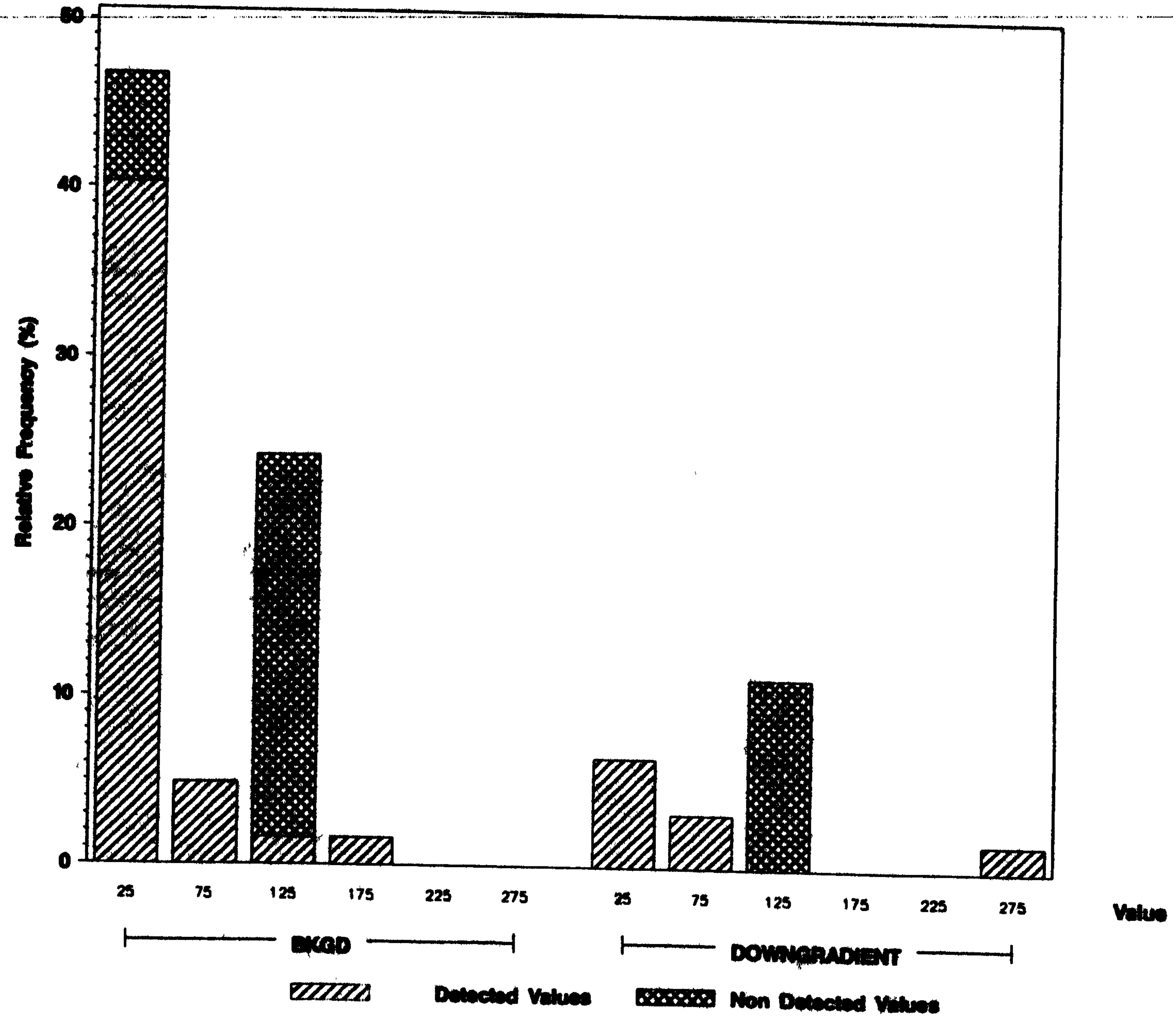
ANALYTE=COPPER



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved IRON (ug/L) In Groundwater

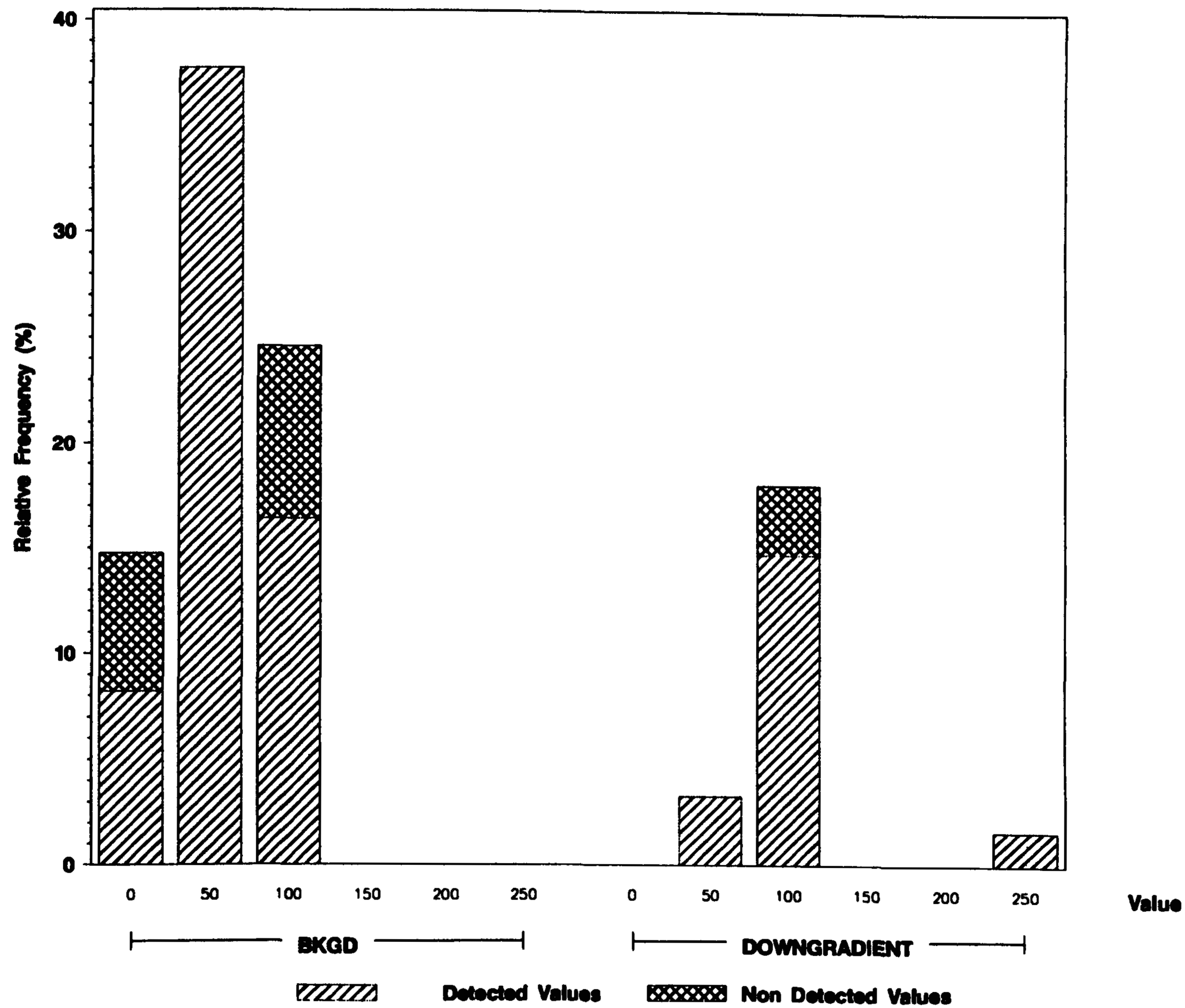
ANALYTE=IRON



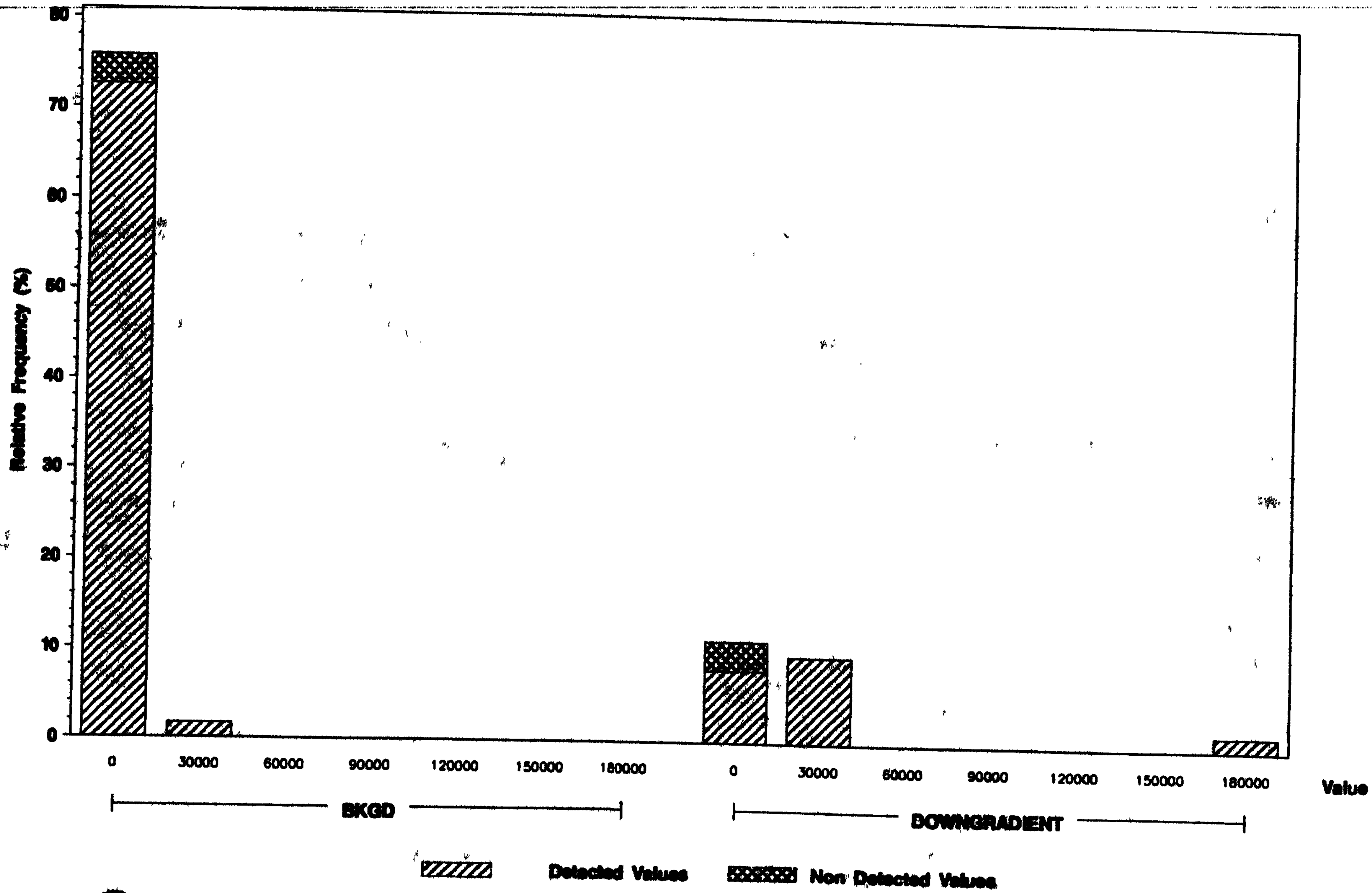
Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Dissolved LITHIUM (ug/L) in Groundwater

ANALYTE=LITHIUM



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram
Dissolved MAGNESIUM (ug/L) in Groundwater
ANALYTE = MAGNESIUM



Groundwater

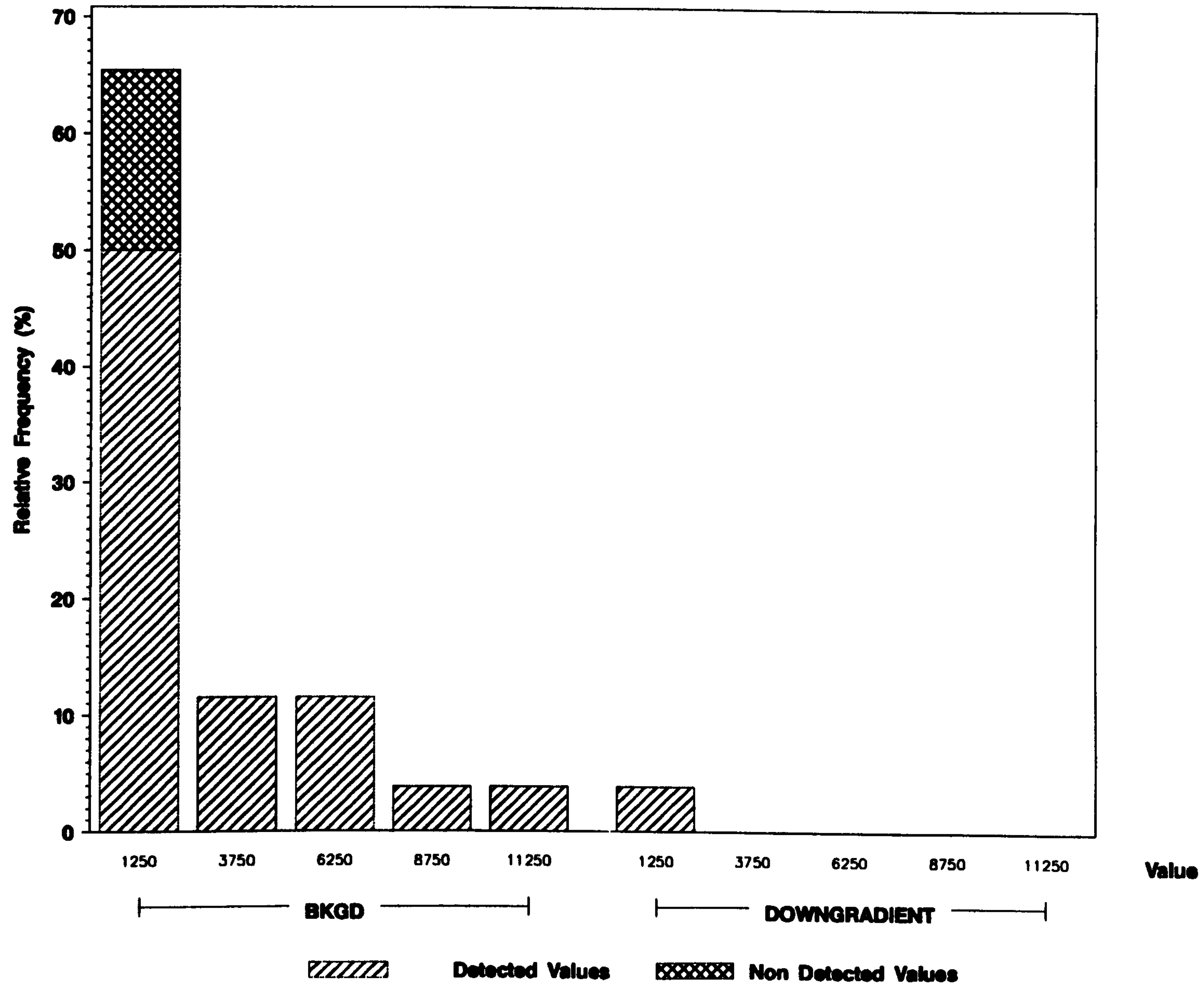
(Total)

Background vs OU 7 Downgradient LHSU

Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total ALUMINUM (ug/L) in Groundwater

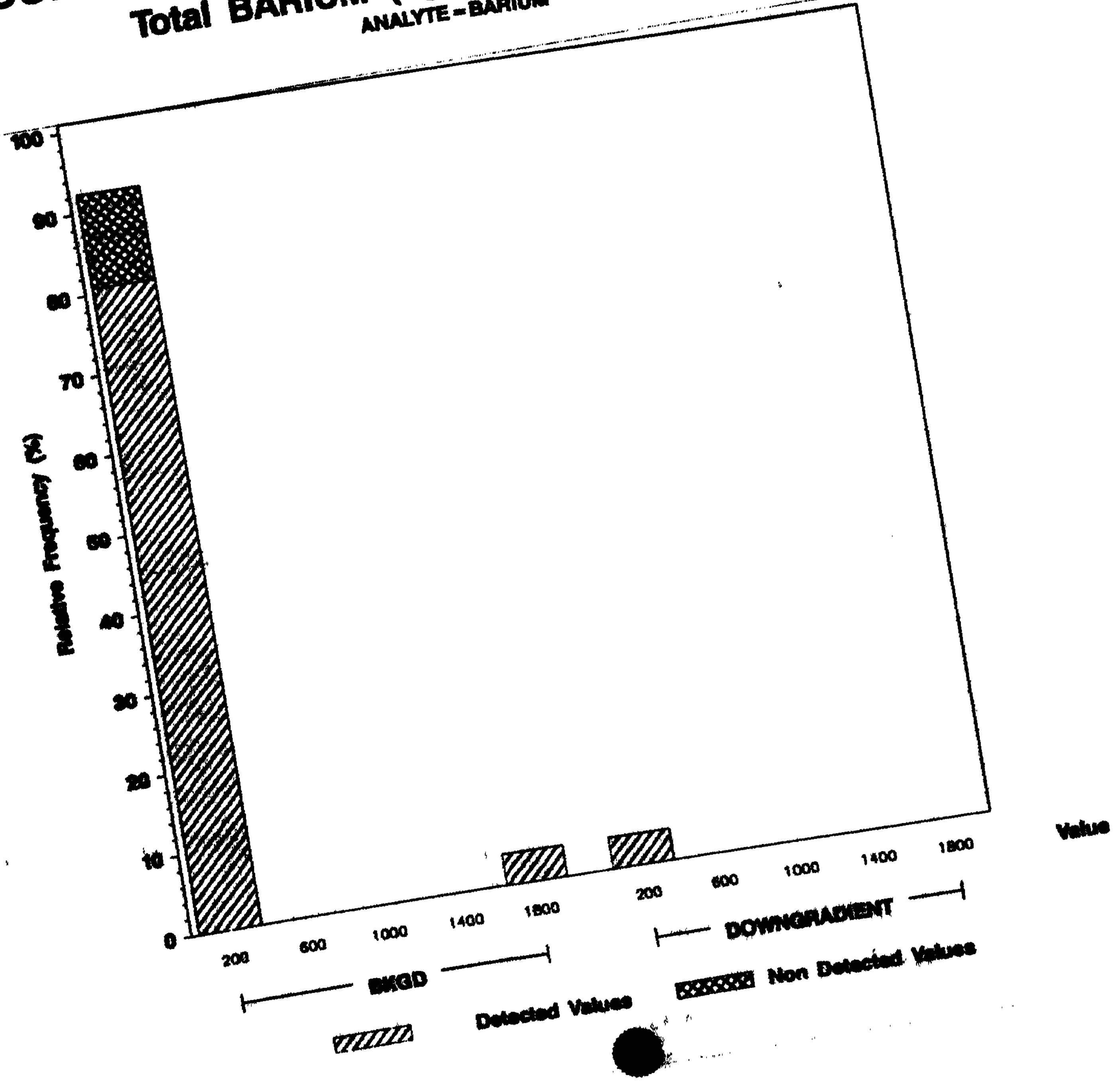
ANALYTE = ALUMINUM



...ckground vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total BARIUM (ug/L) in Groundwater

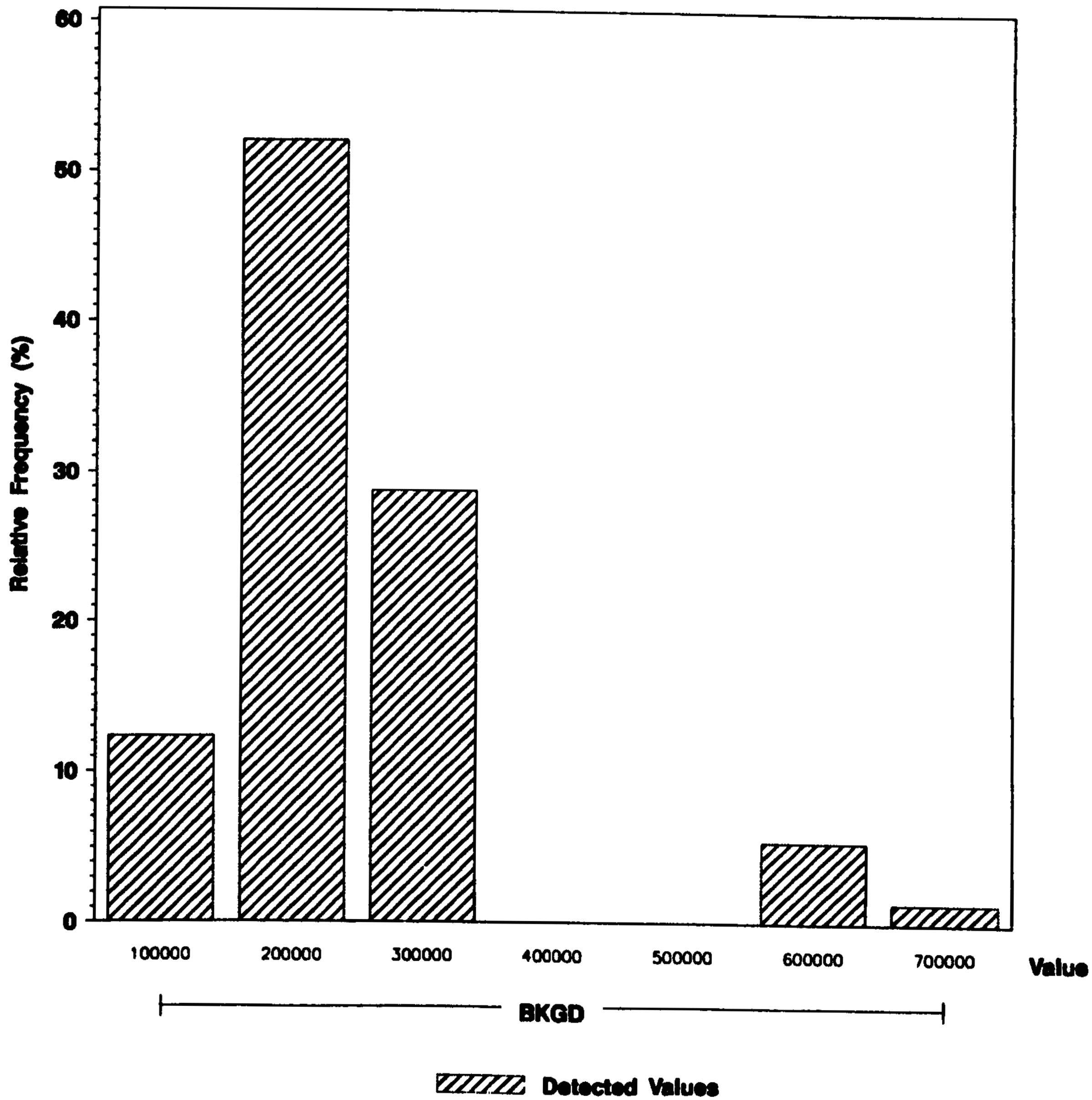
ANALYTE=BARIUM



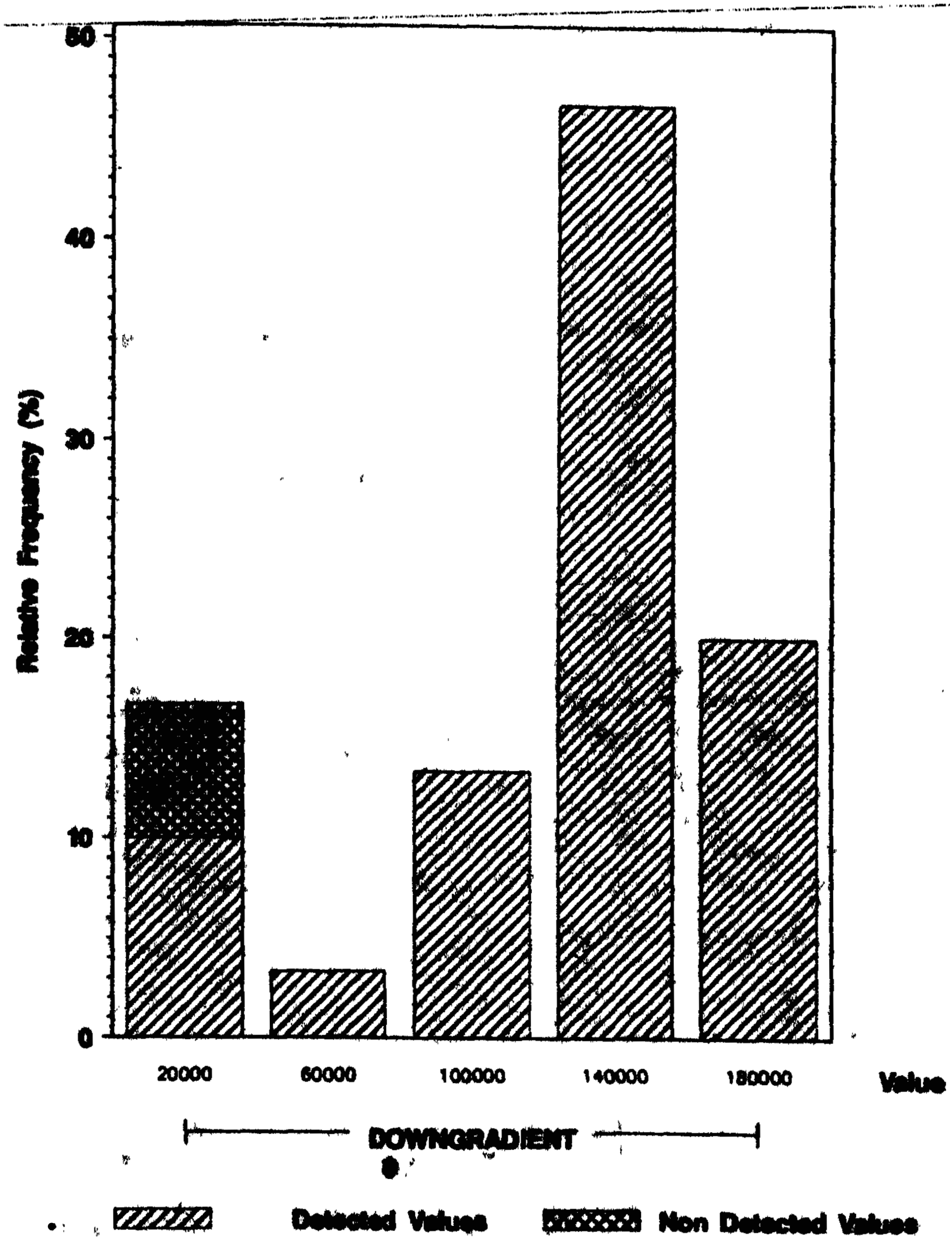
Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total BICARBONATE (ug/L) in Groundwater

ANALYTE=BICARBONATE



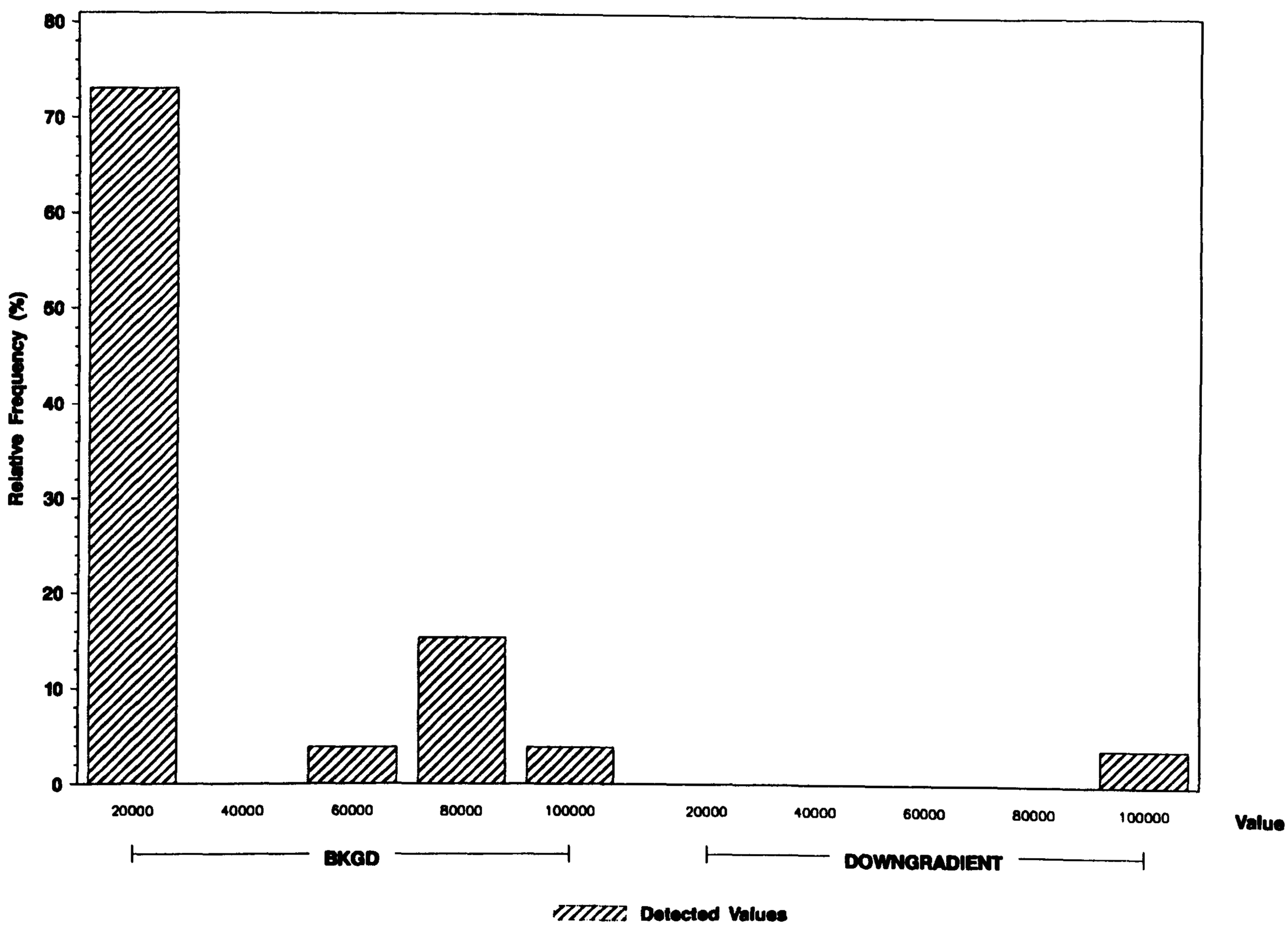
Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram
Total BICARBONATE AS CACO3 (ug/L) In Groundwater
ANALYTE=BICARBONATE AS CACO3



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total CALCIUM (ug/L) in Groundwater

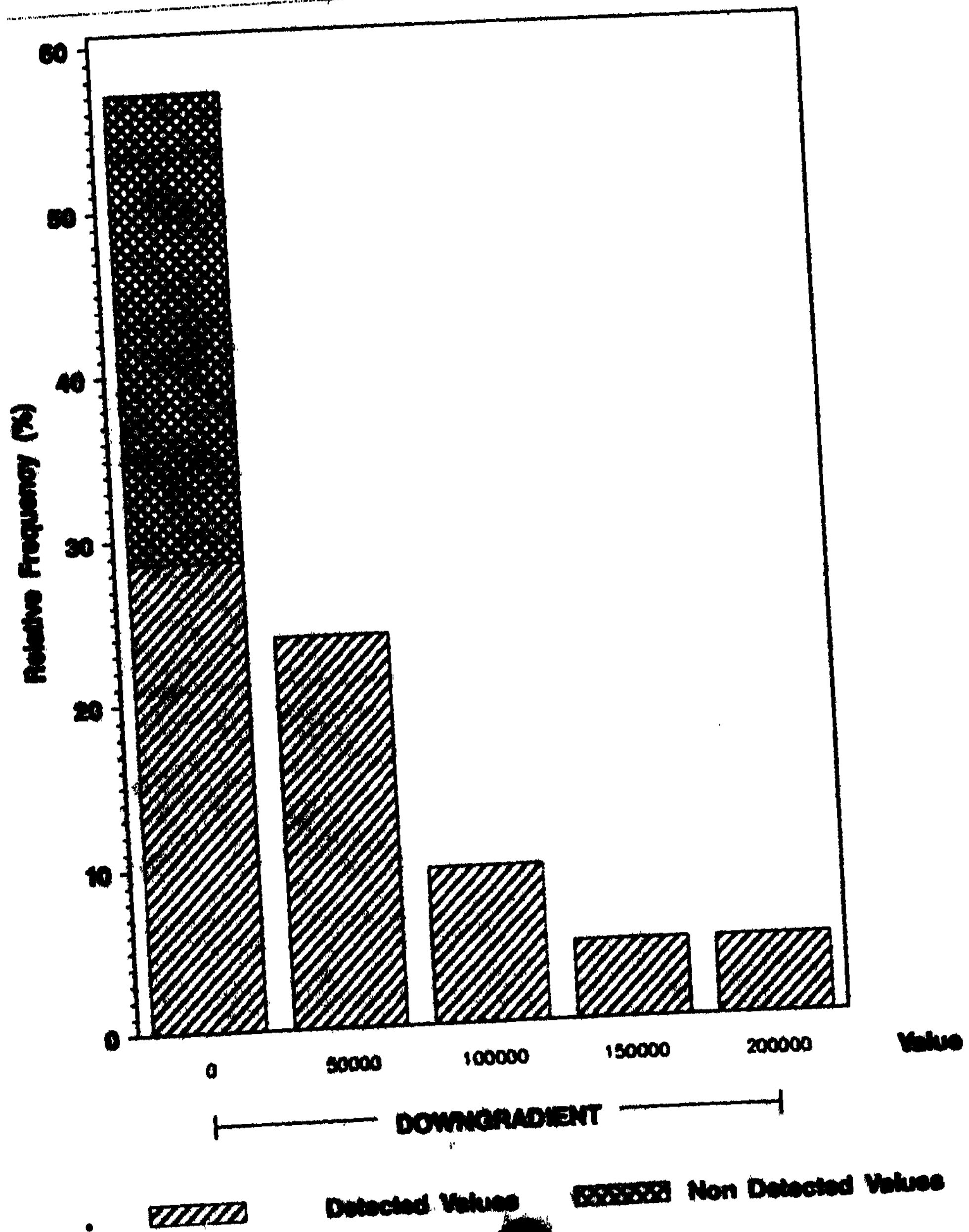
ANALYTE=CALCIUM



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total CARBONATE AS CACO3 (ug/L) In Groundwater

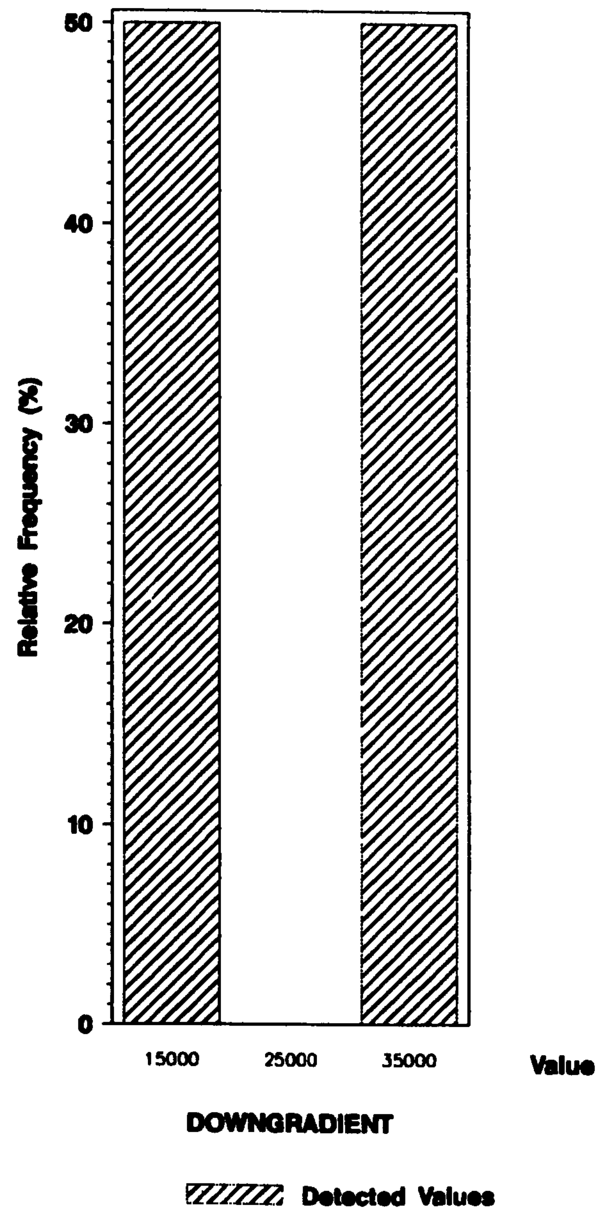
ANALYTE=CARBONATE AS CACO3



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total CHEMICAL OXYGEN DEMAND (ug/L) In Groundwater

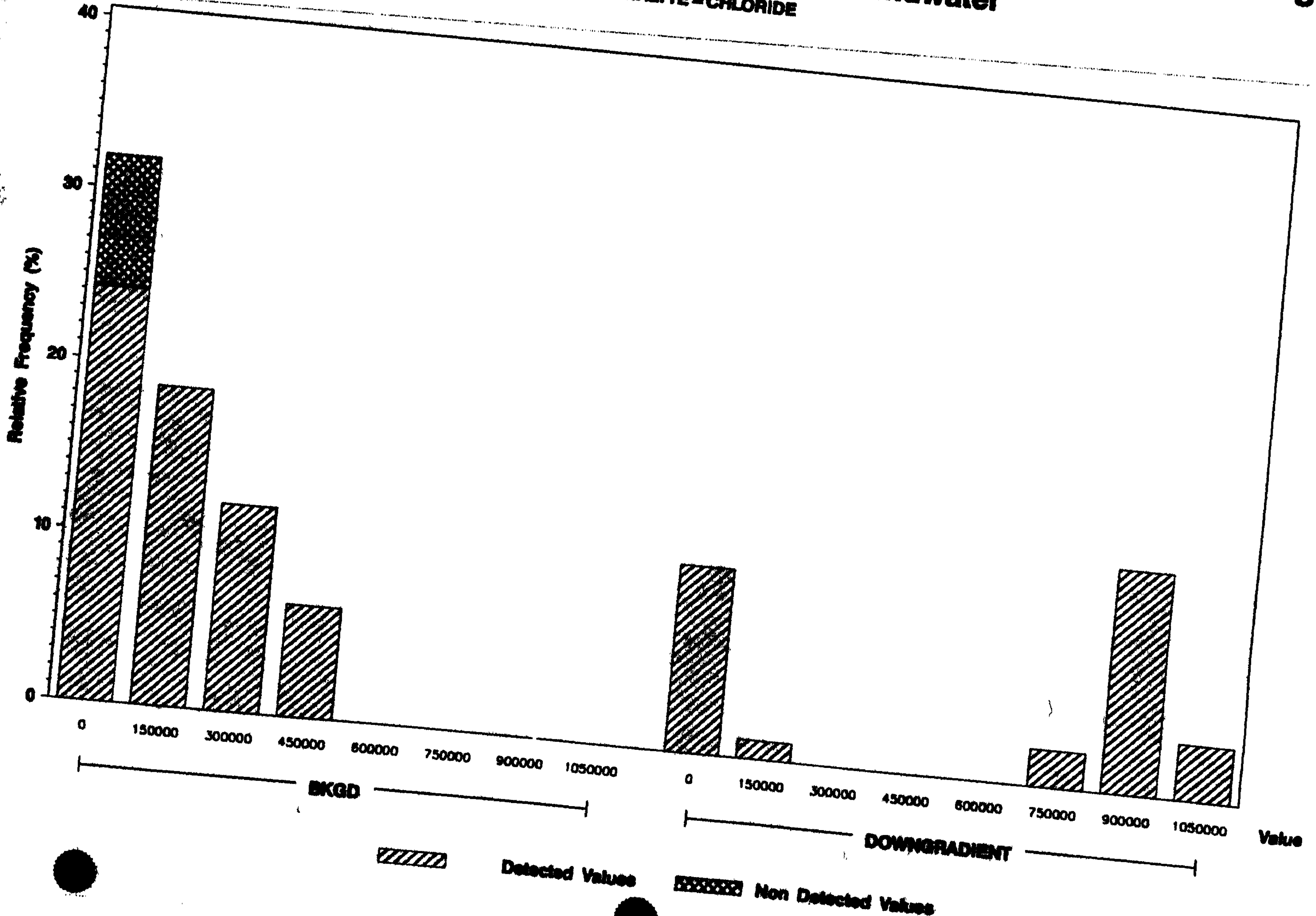
ANALYTE=CHEMICAL OXYGEN DEMAND



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total CHLORIDE (ug/L) In Groundwater

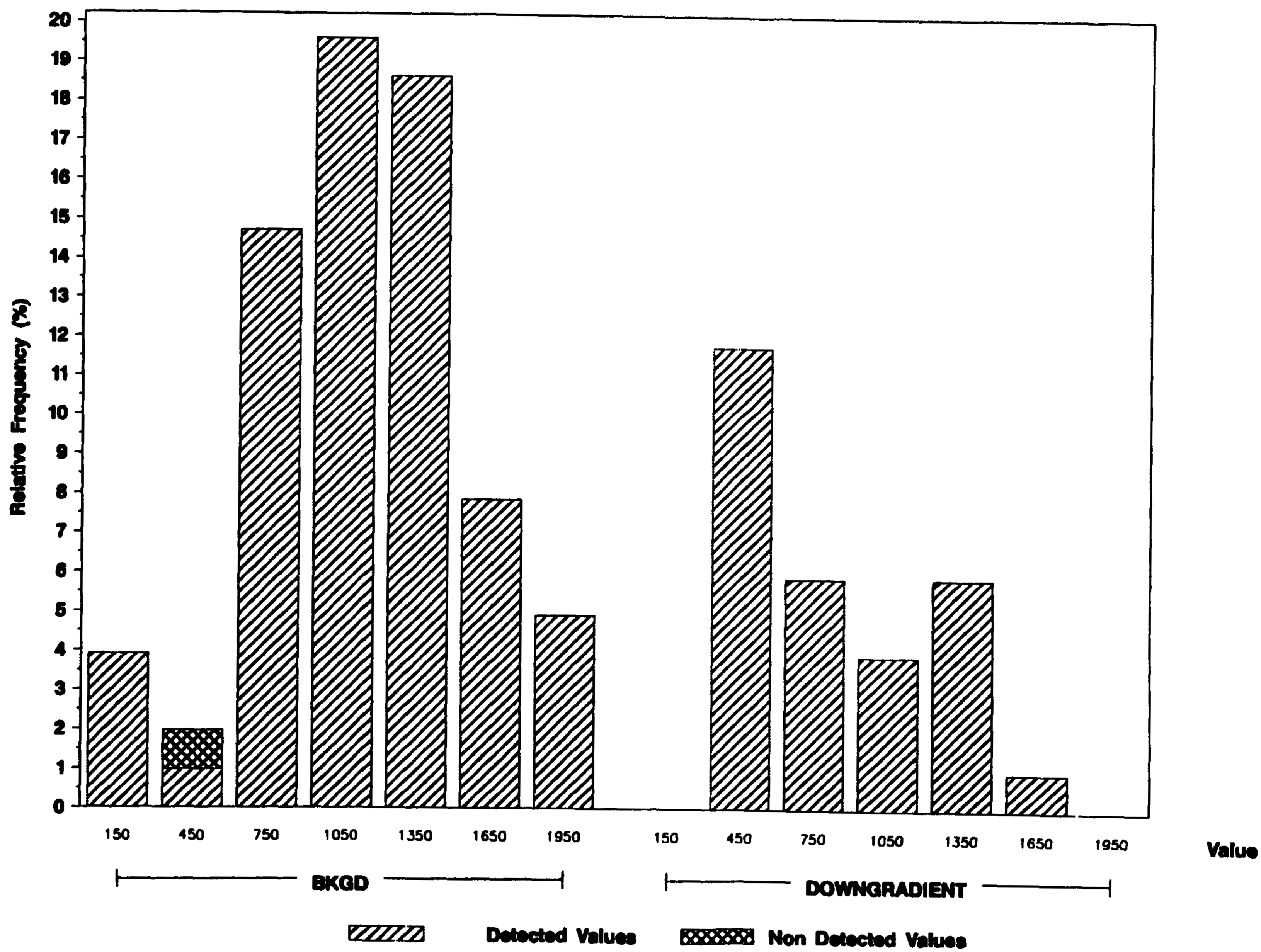
ANALYTE=CHLORIDE



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total FLUORIDE (ug/L) in Groundwater

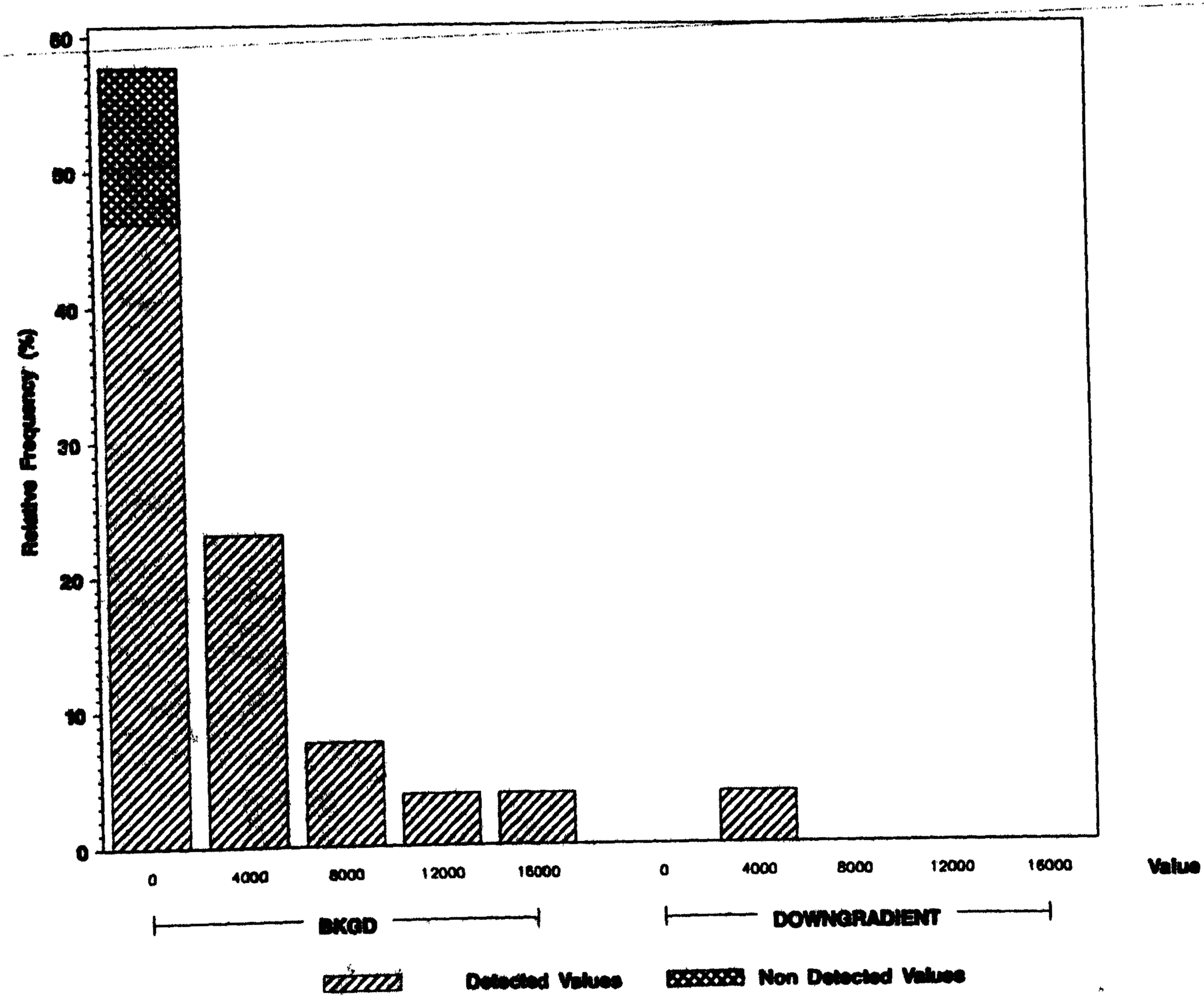
ANALYTE=FLUORIDE



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total IRON (ug/L) in Groundwater

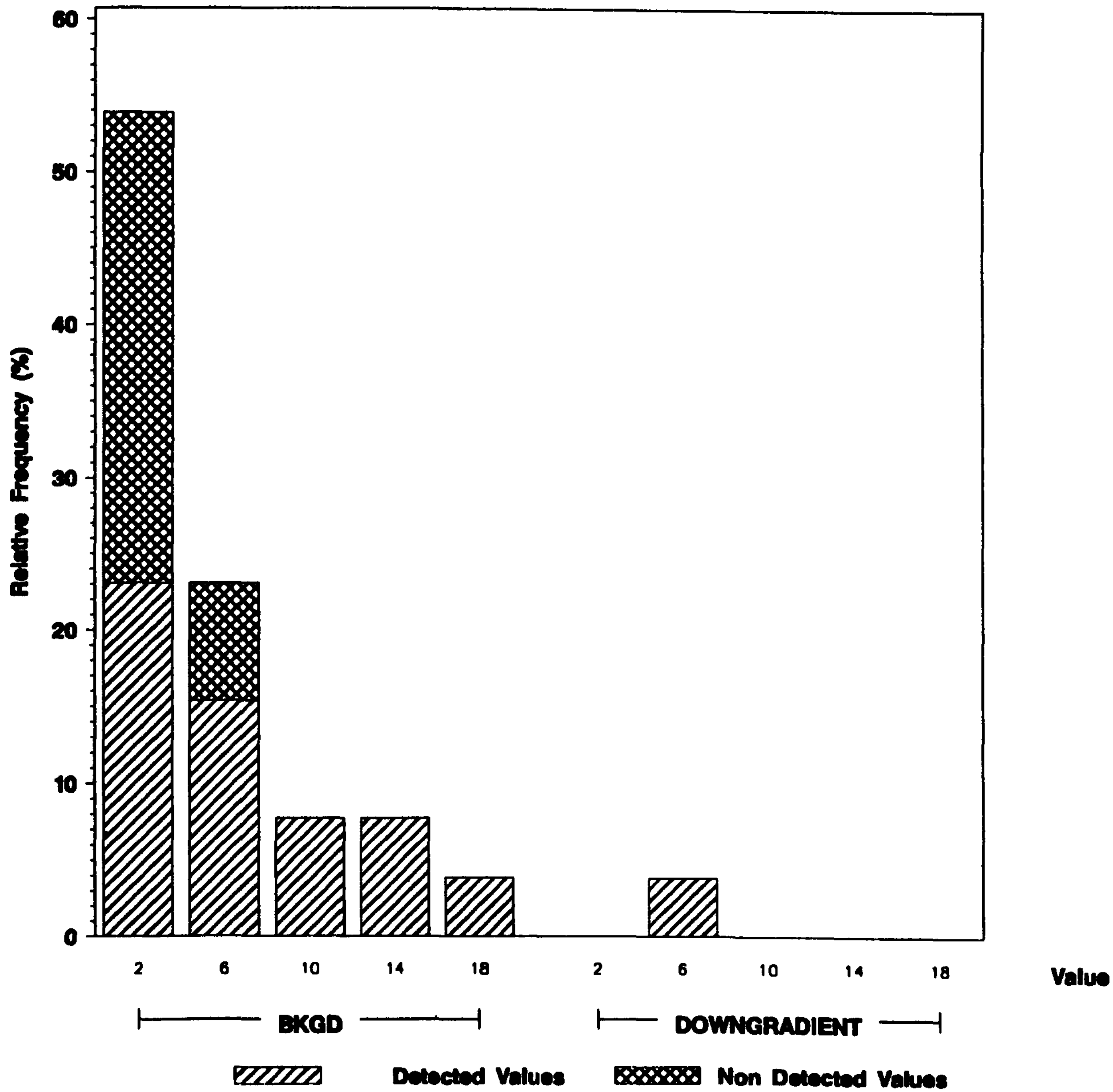
ANALYTE=IRON



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total LEAD (ug/L) in Groundwater

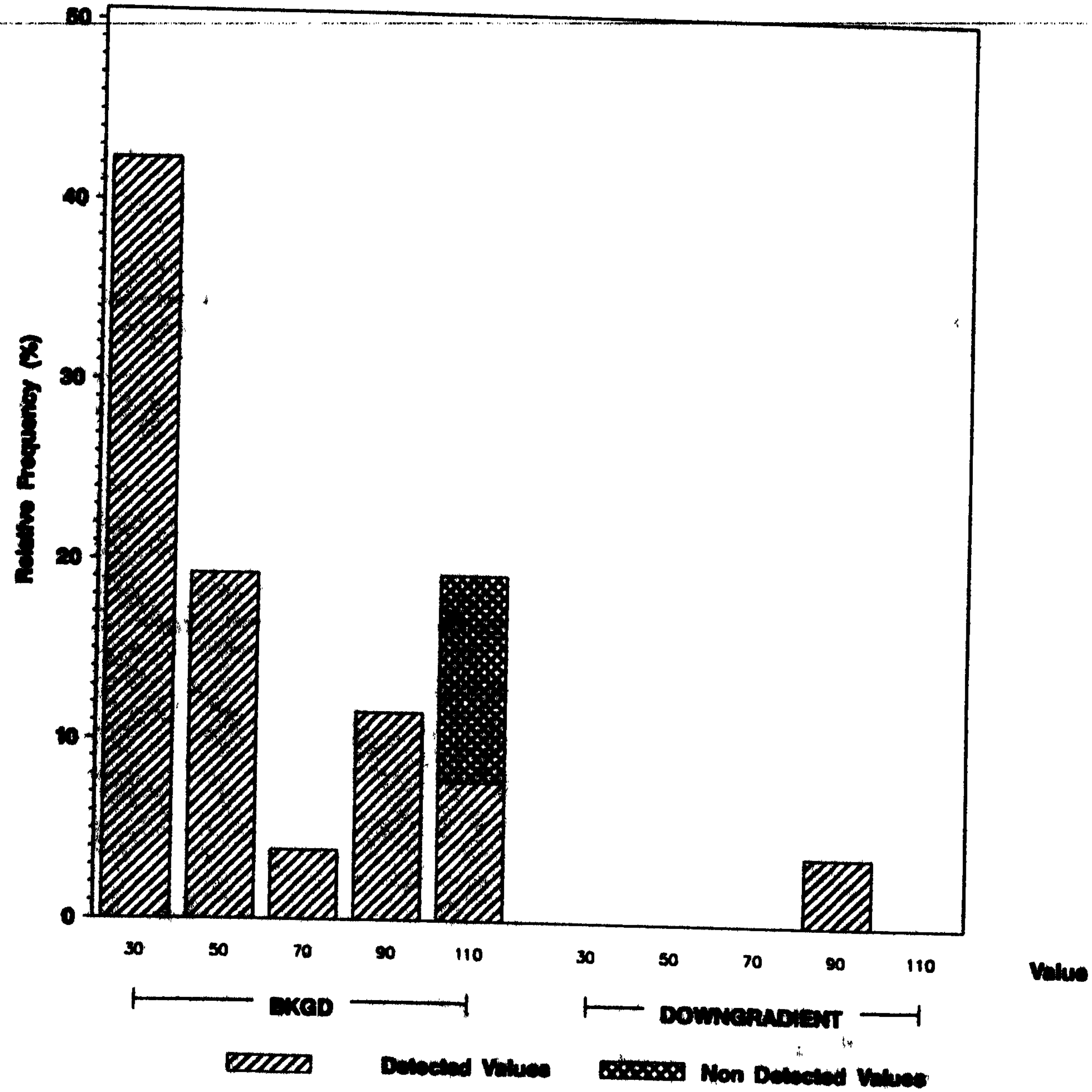
ANALYTE = LEAD



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total LITHIUM (ug/L) in Groundwater

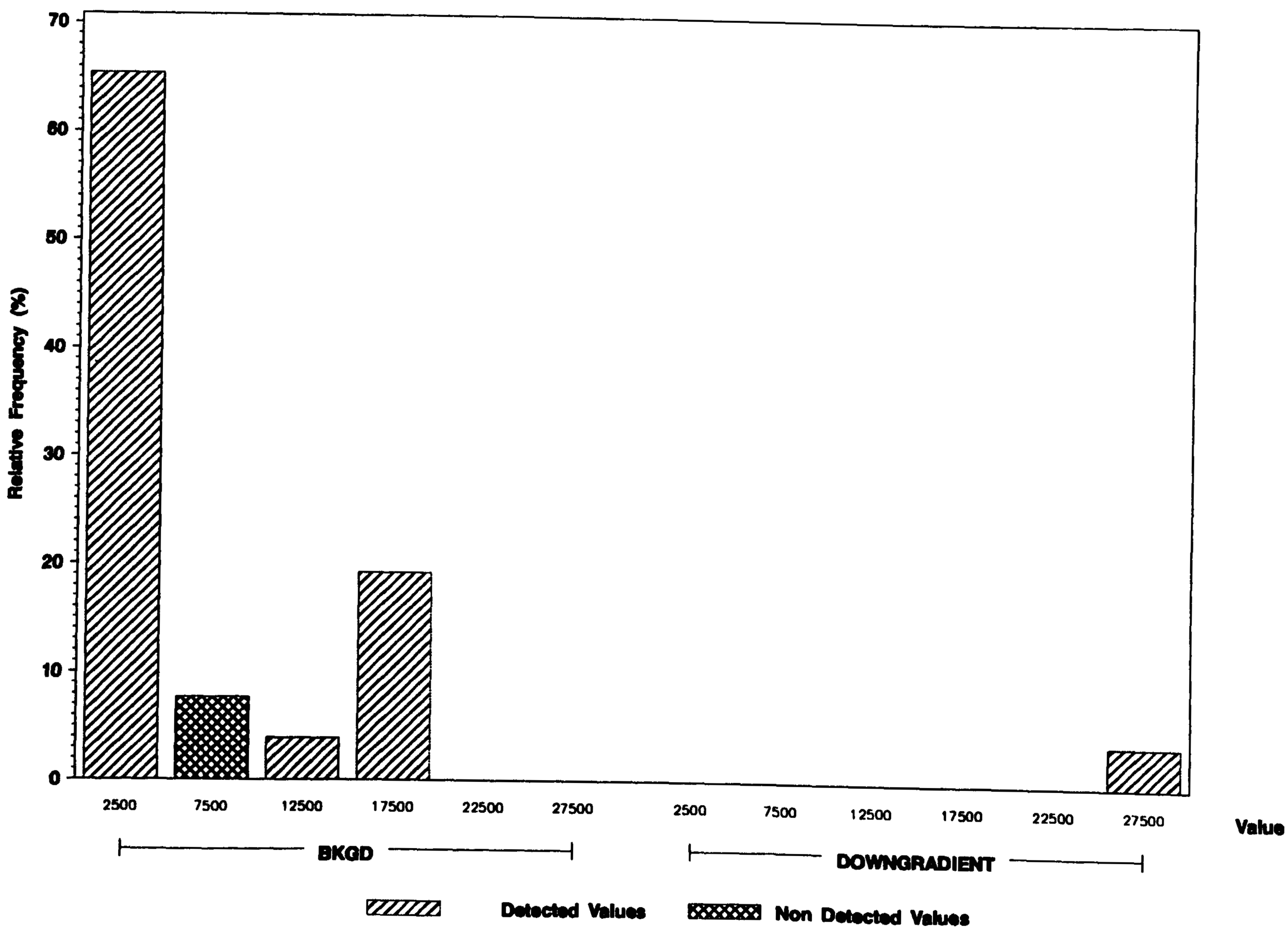
ANALYTE=LITHIUM



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total MAGNESIUM (ug/L) in Groundwater

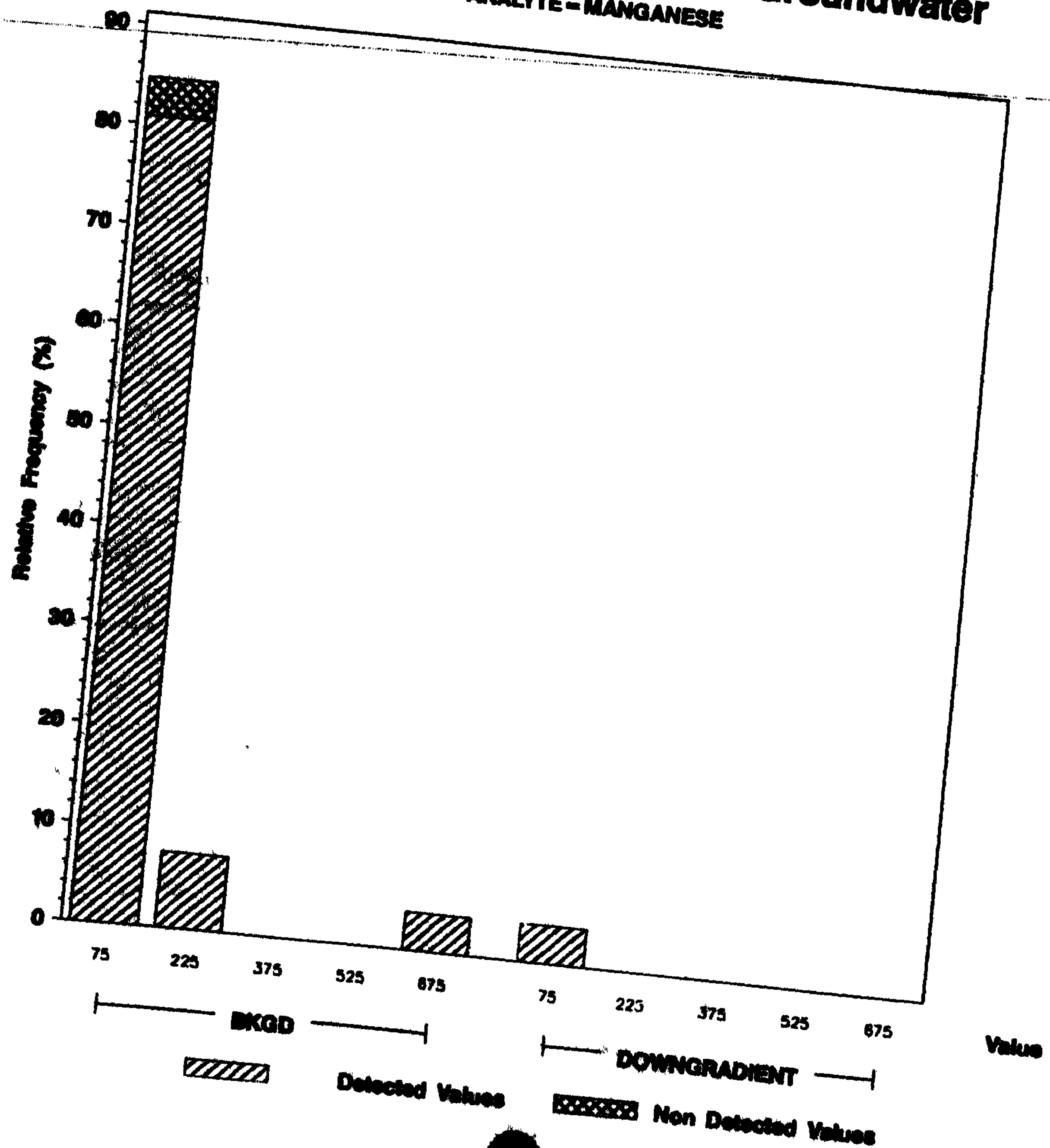
ANALYTE = MAGNESIUM



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total MANGANESE (ug/L) In Groundwater

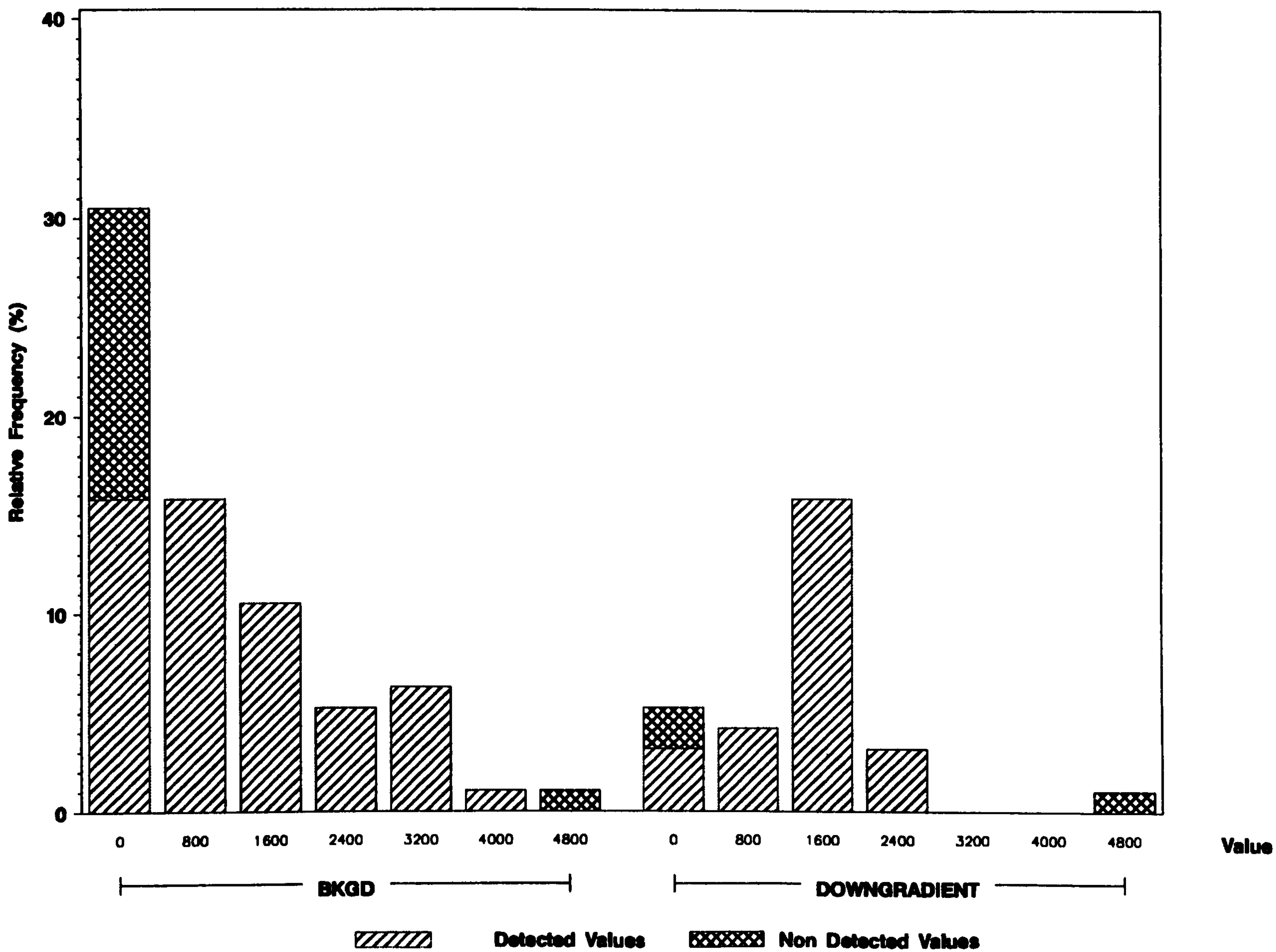
ANALYTE=MANGANESE



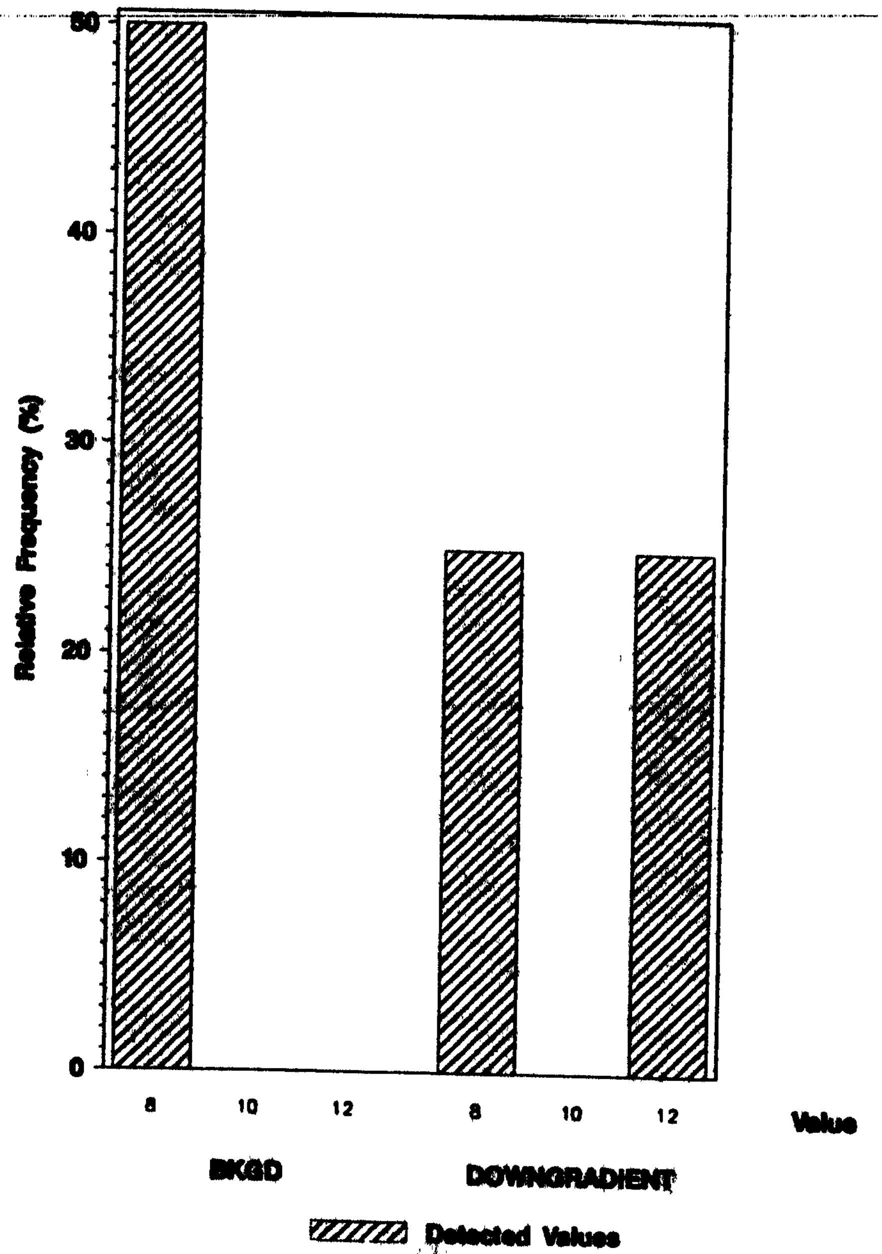
Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total NITRATE/NITRITE (ug/L) in Groundwater

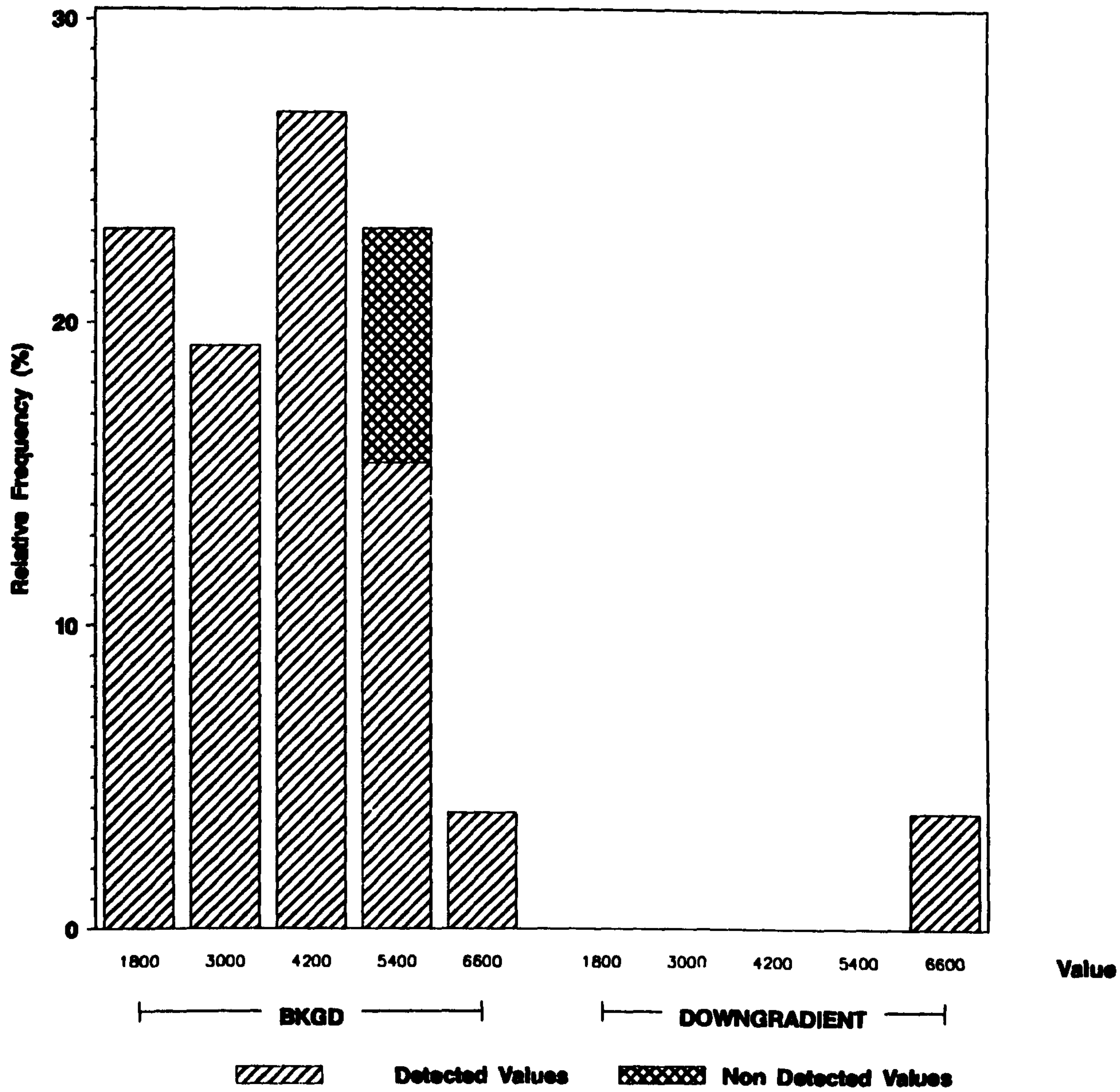
ANALYTE = NITRATE/NITRITE



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram
pH (Standard Units) In Groundwater
ANALYTE=pH



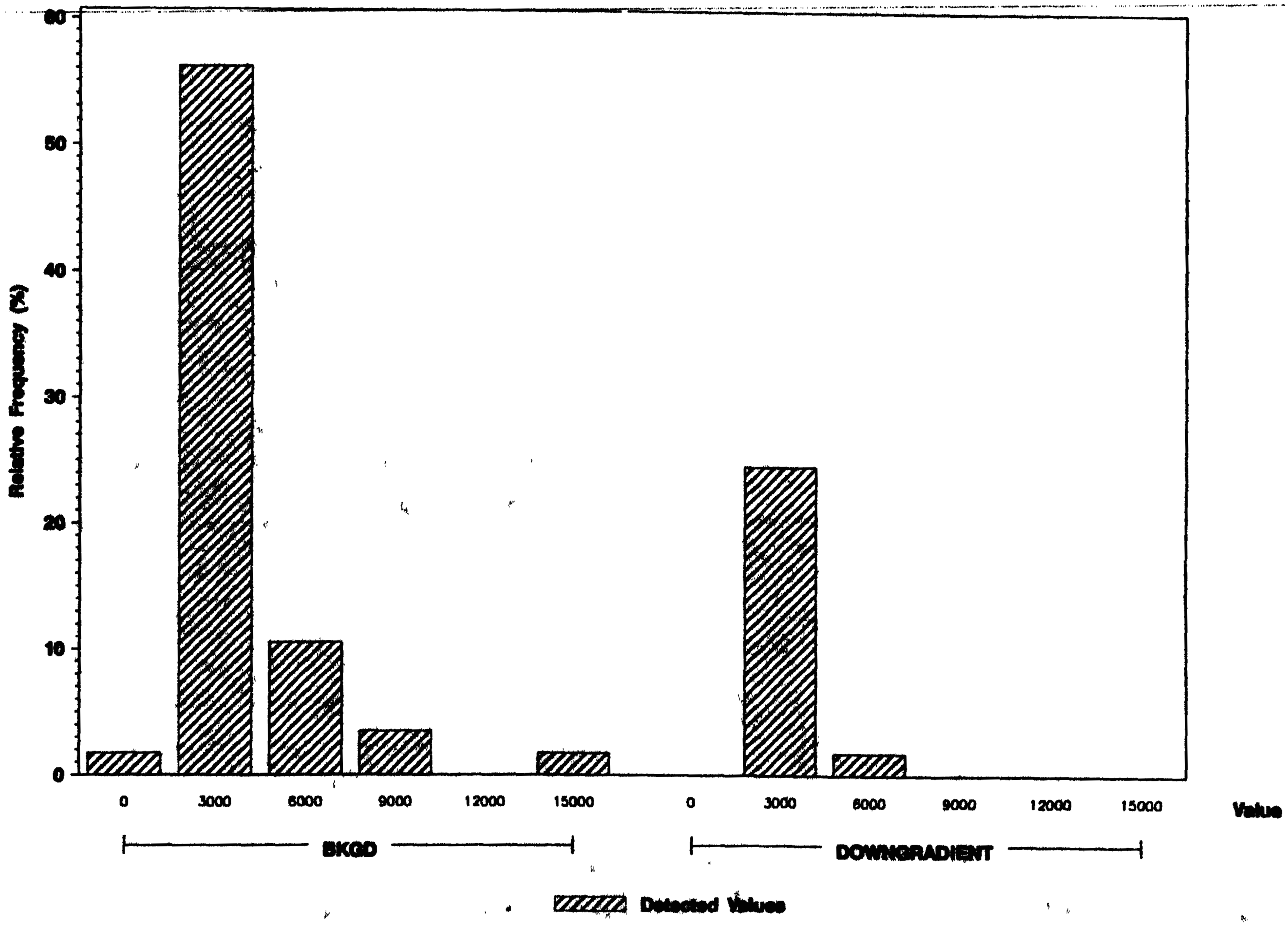
Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram
Total POTASSIUM (ug/L) in Groundwater
ANALYTE=POTASSIUM



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total SILICA (ug/L) in Groundwater

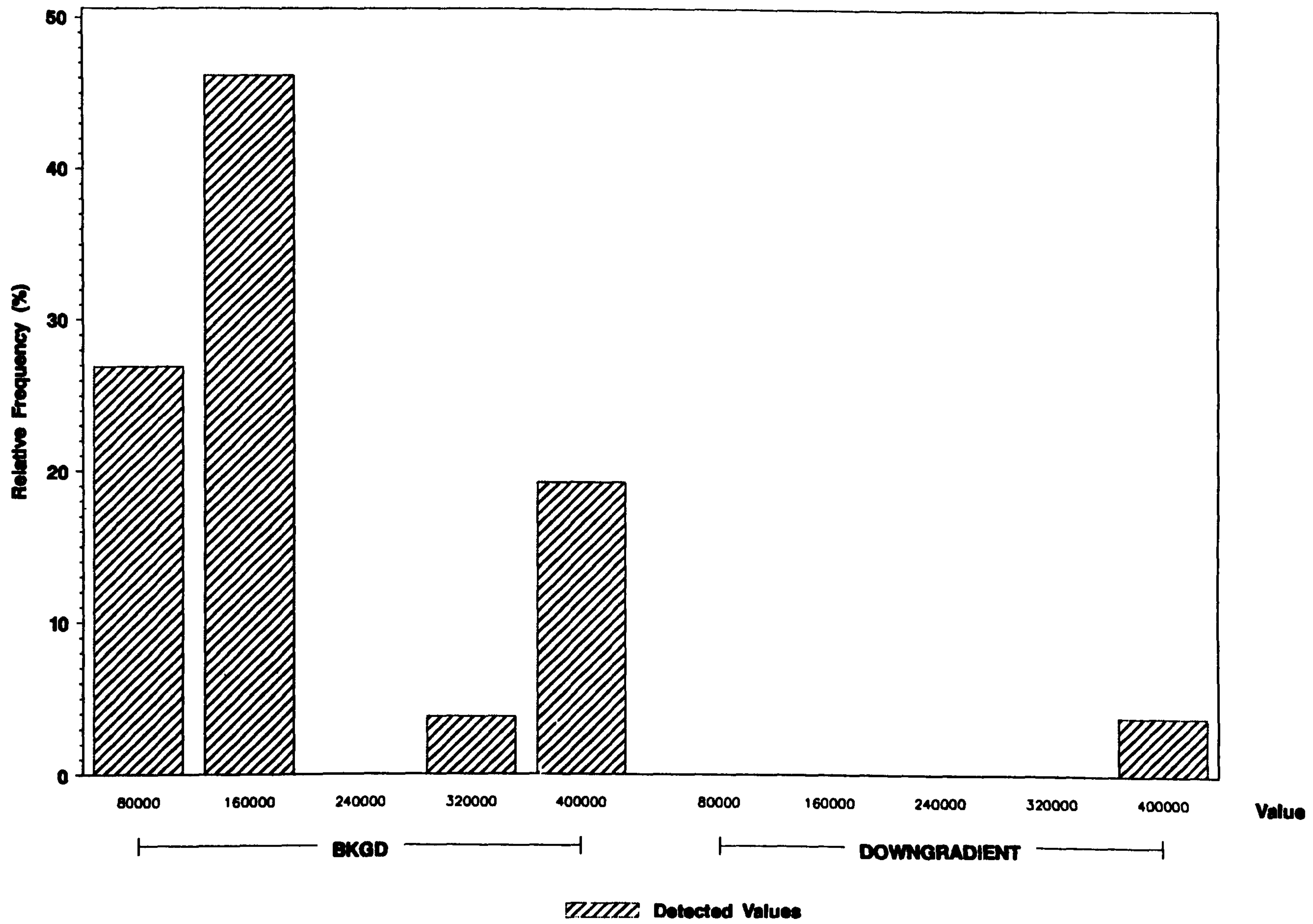
ANALYTE=SILICA



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total SODIUM (ug/L) in Groundwater

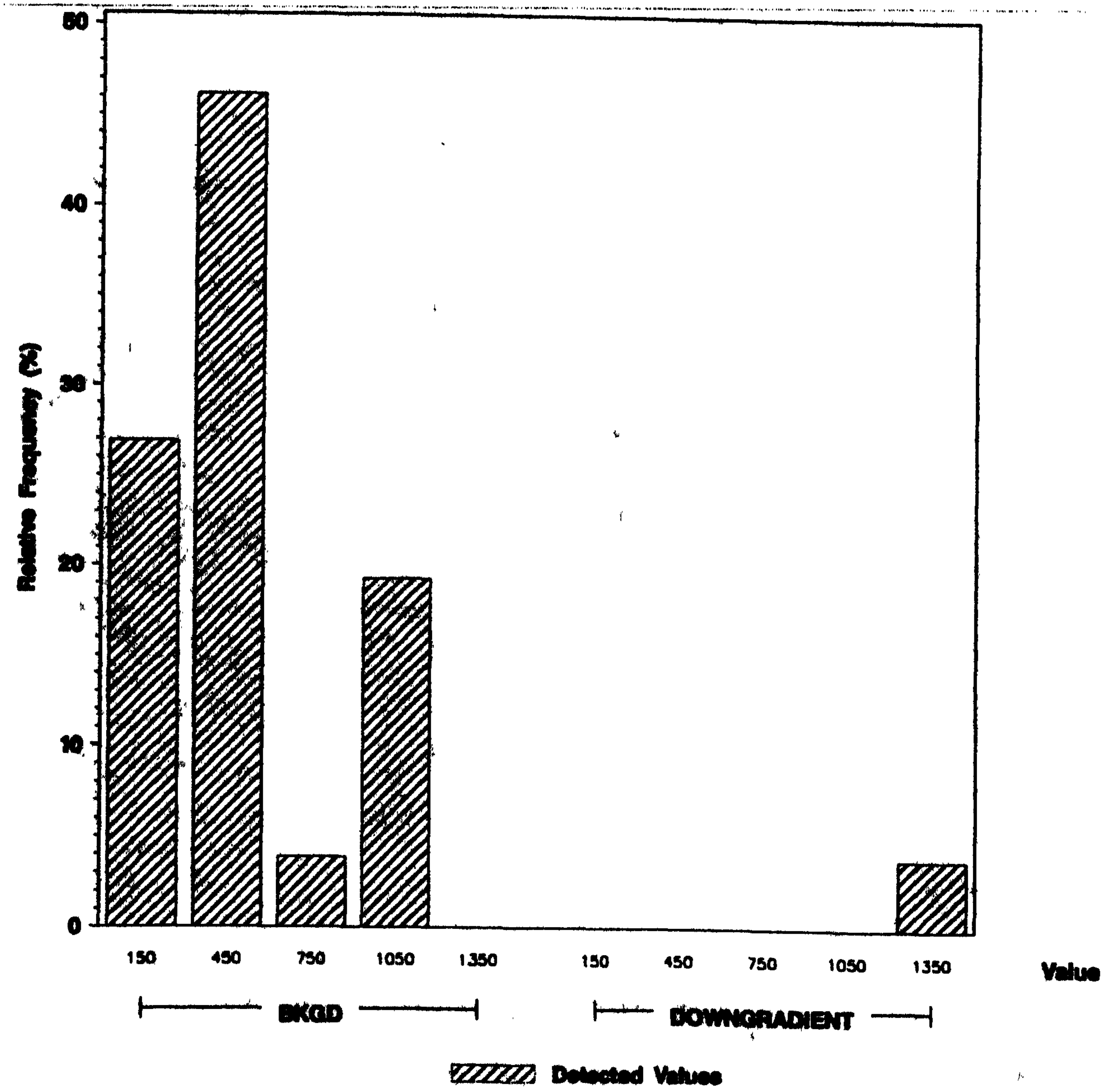
ANALYTE=SODIUM



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total STRONTIUM (ug/L) in Groundwater

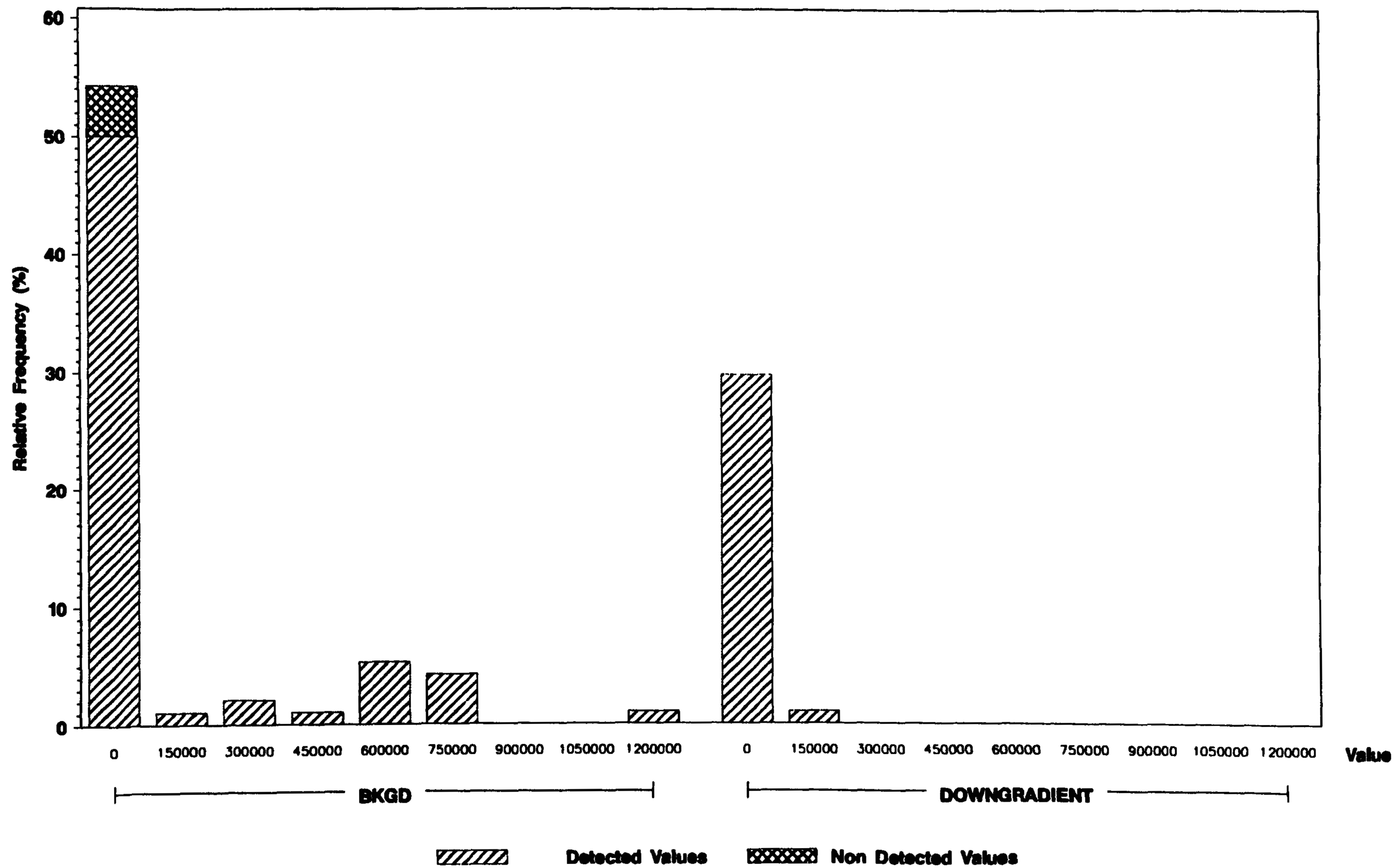
ANALYTE = STRONTIUM



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total SULFATE (ug/L) in Groundwater

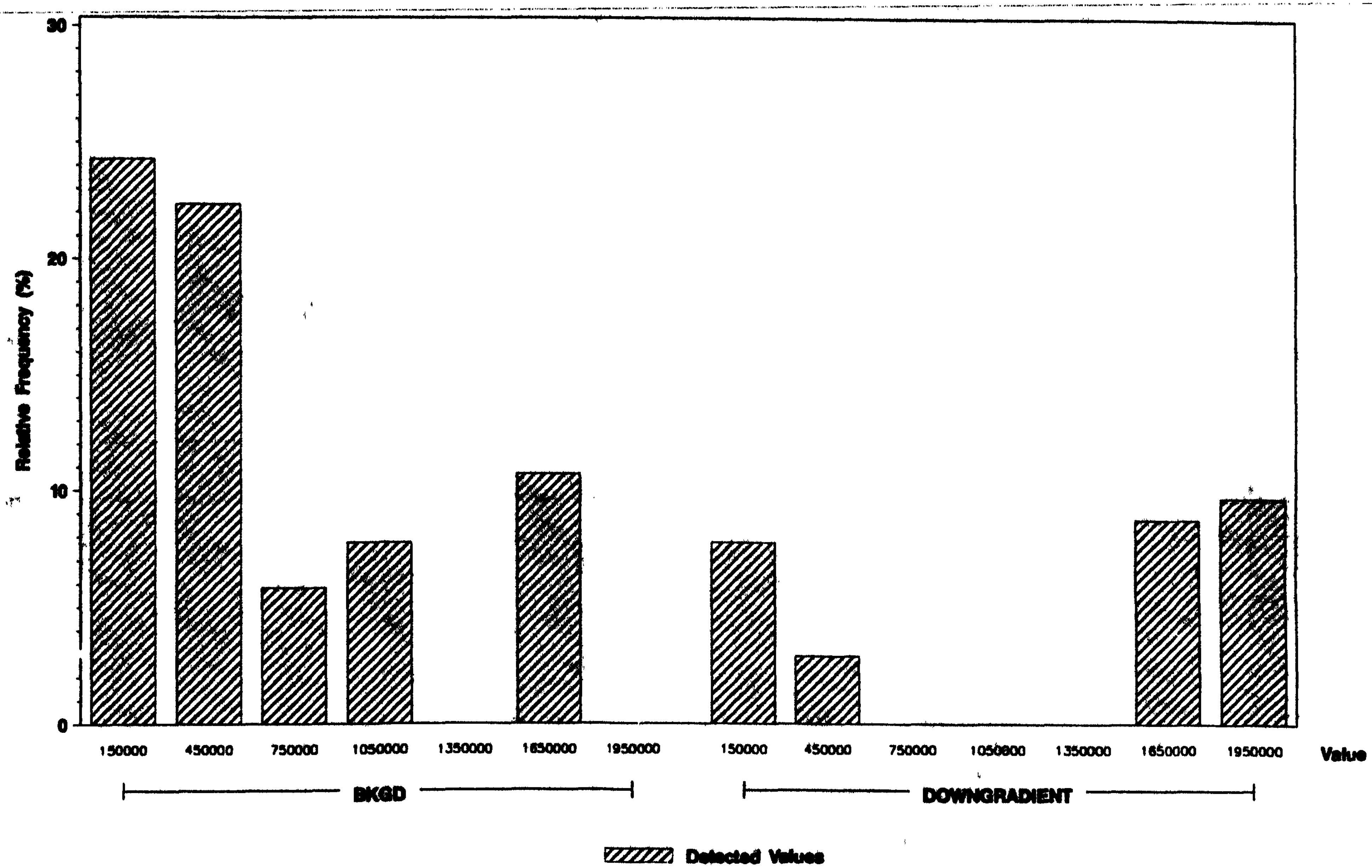
ANALYTE = SULFATE



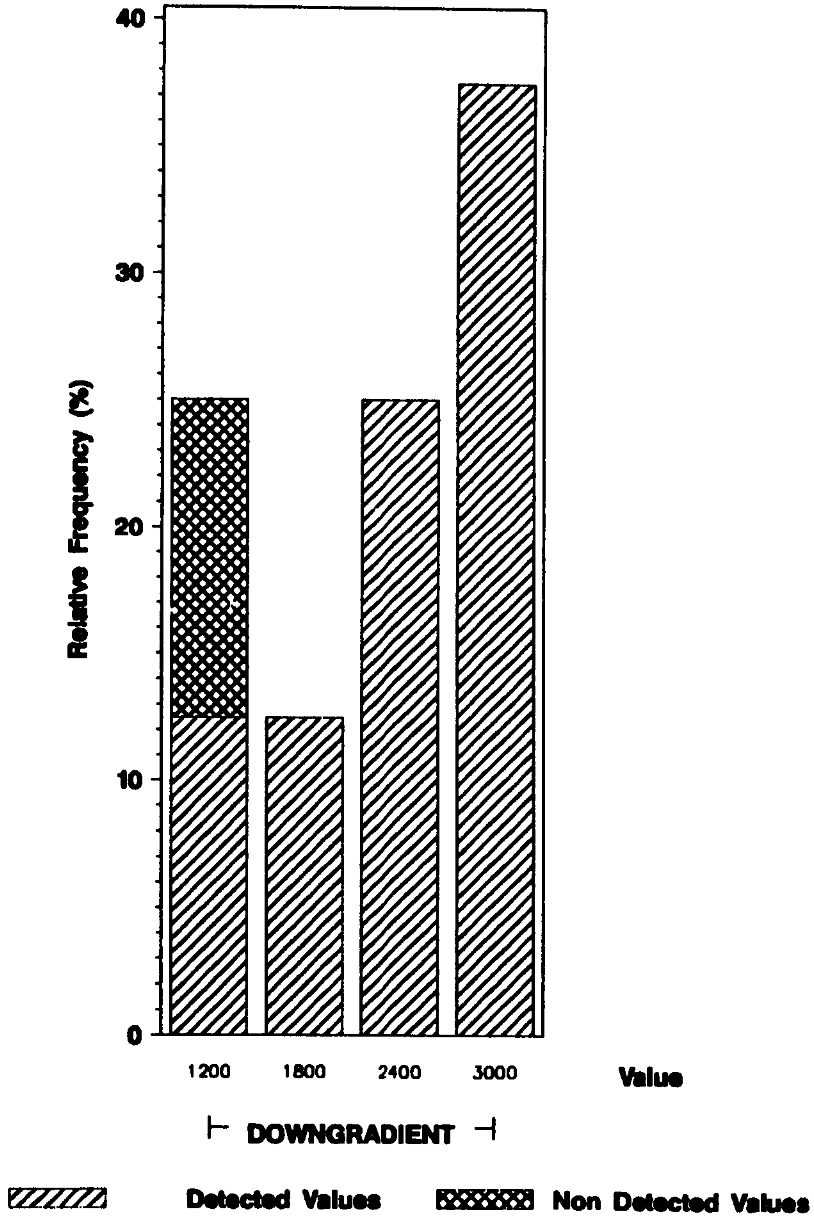
Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

TOTAL DISSOLVED SOLIDS (ug/L) in Groundwater

ANALYTE=TOTAL DISSOLVED SOLIDS



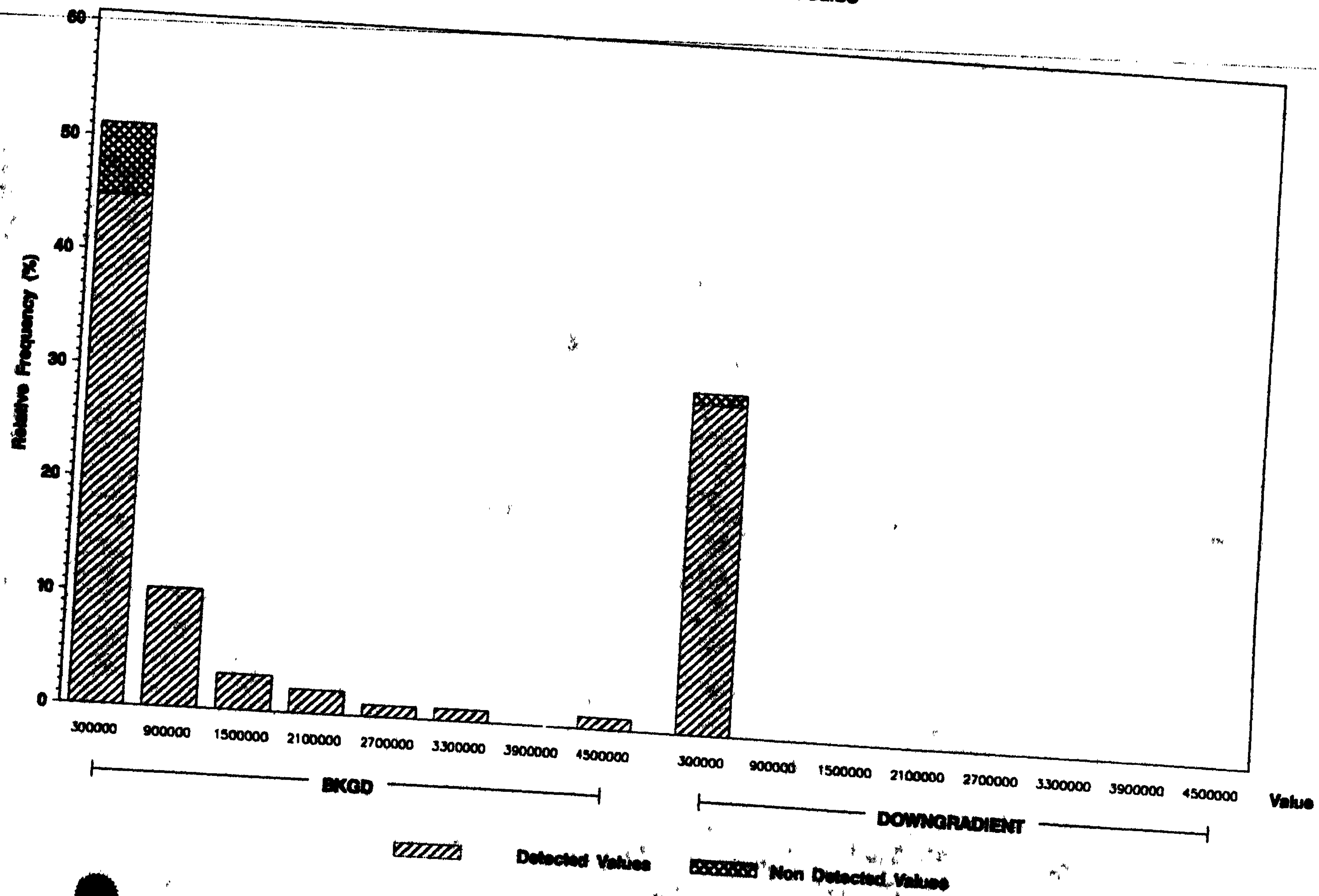
Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram
TOTAL ORGANIC CARBON (ug/L) in Groundwater
ANALYTE=TOTAL ORGANIC CARBON



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

TOTAL SUSPENDED SOLIDS (ug/L) in Groundwater

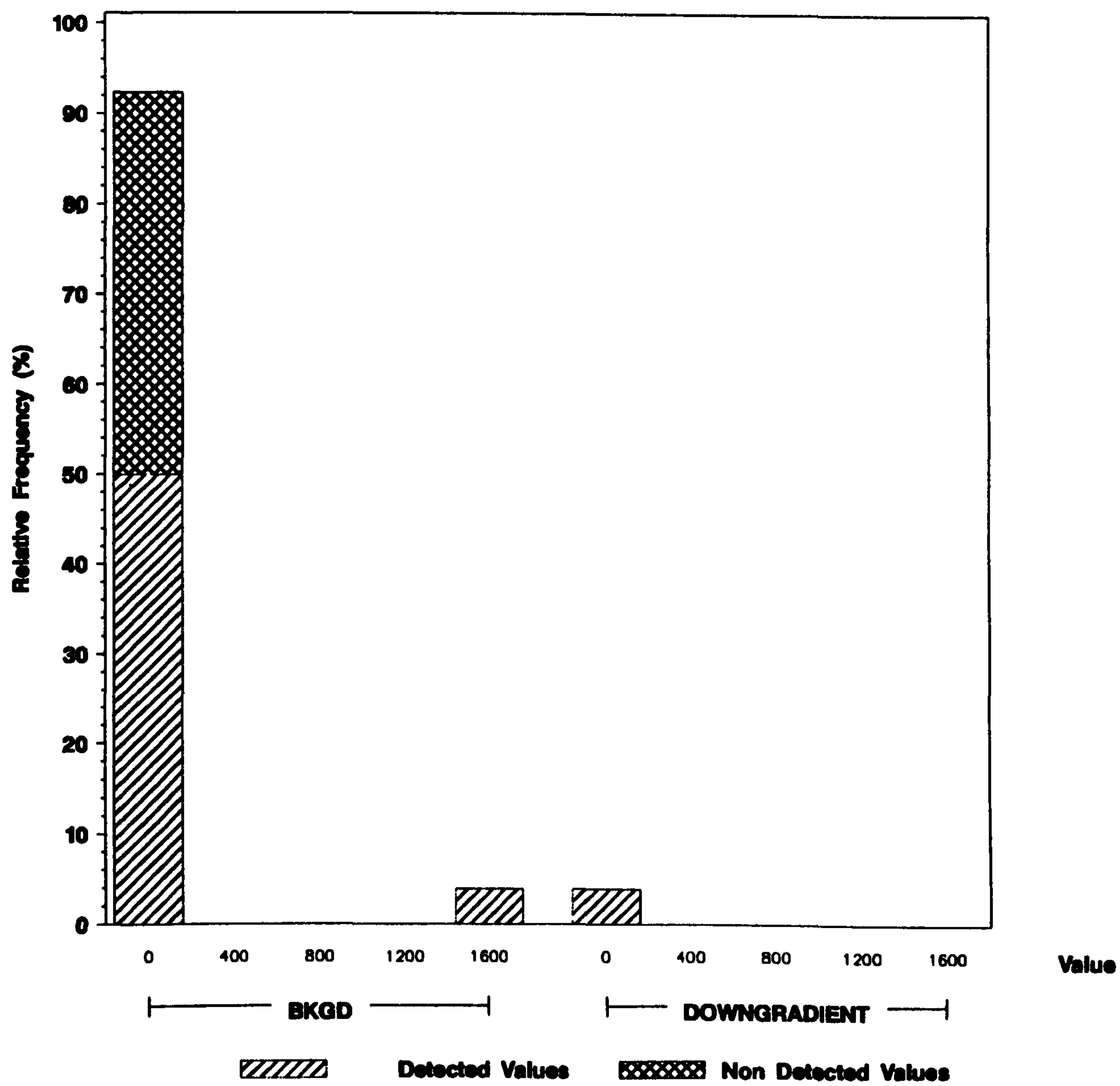
ANALYTE=TOTAL SUSPENDED SOLIDS



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total VANADIUM (ug/L) in Groundwater

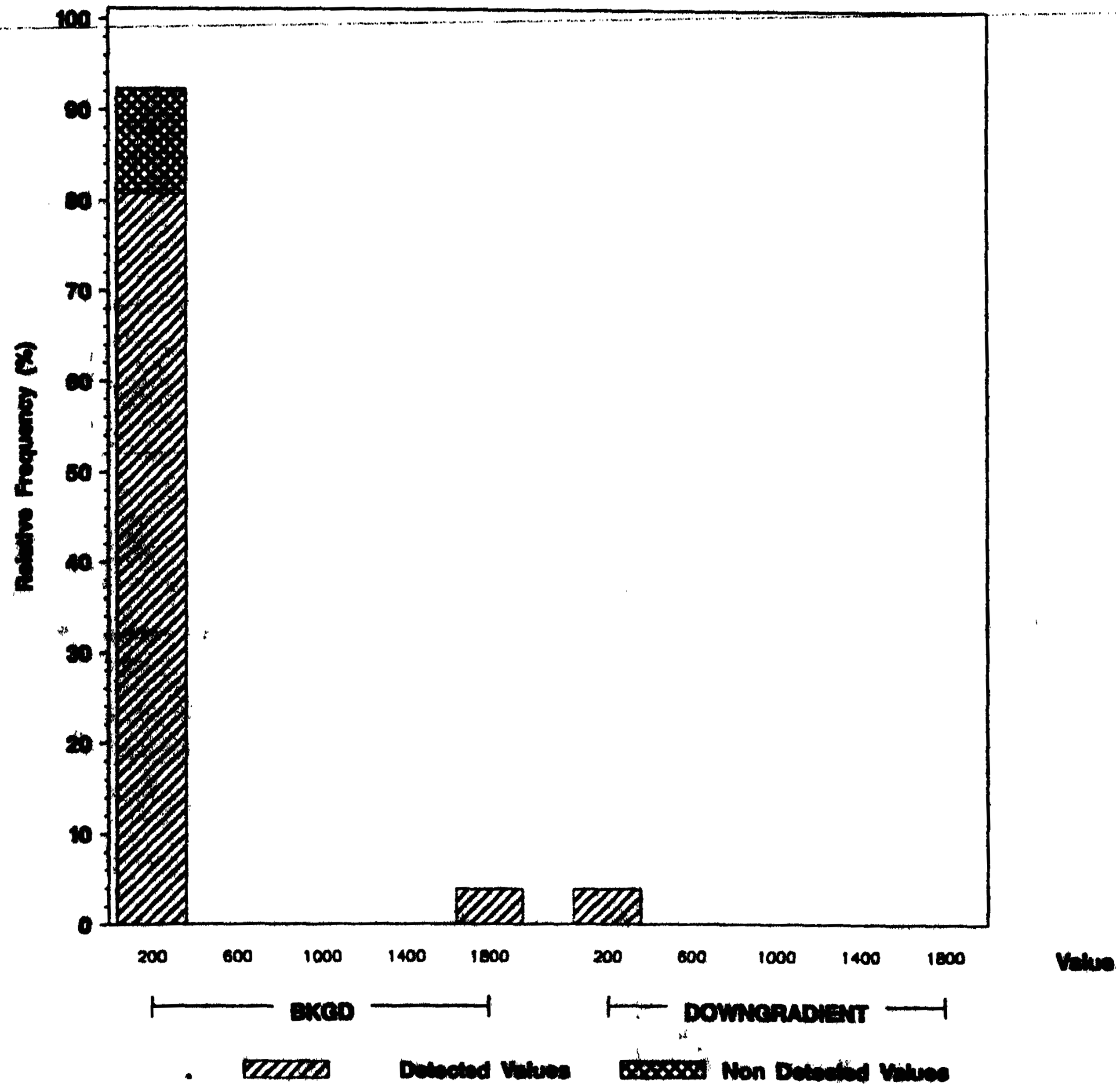
ANALYTE=VANADIUM



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total ZINC (ug/L) in Groundwater

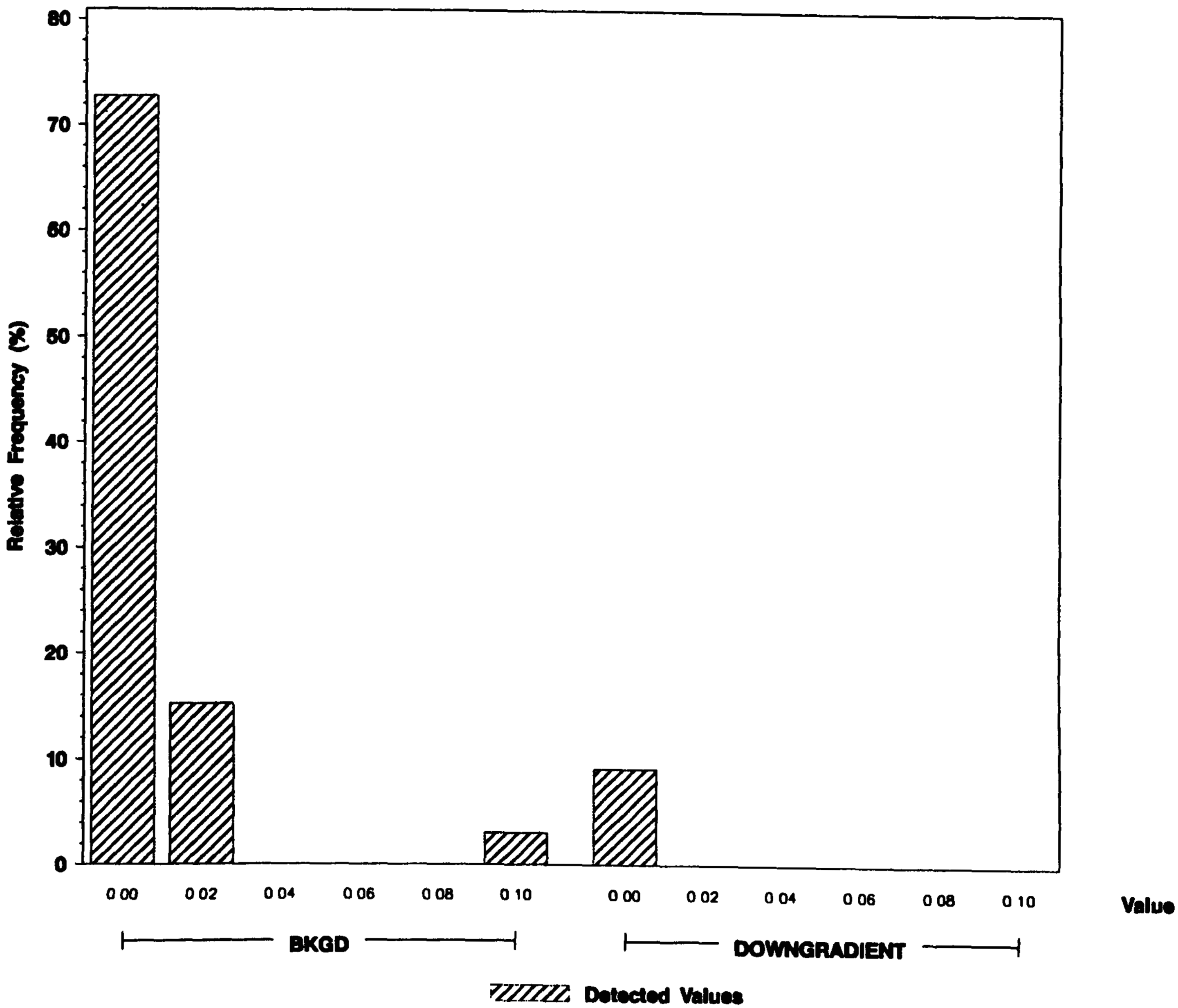
ANALYTE=ZINC



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total AMERICIUM-241 (pCi/L) in Groundwater

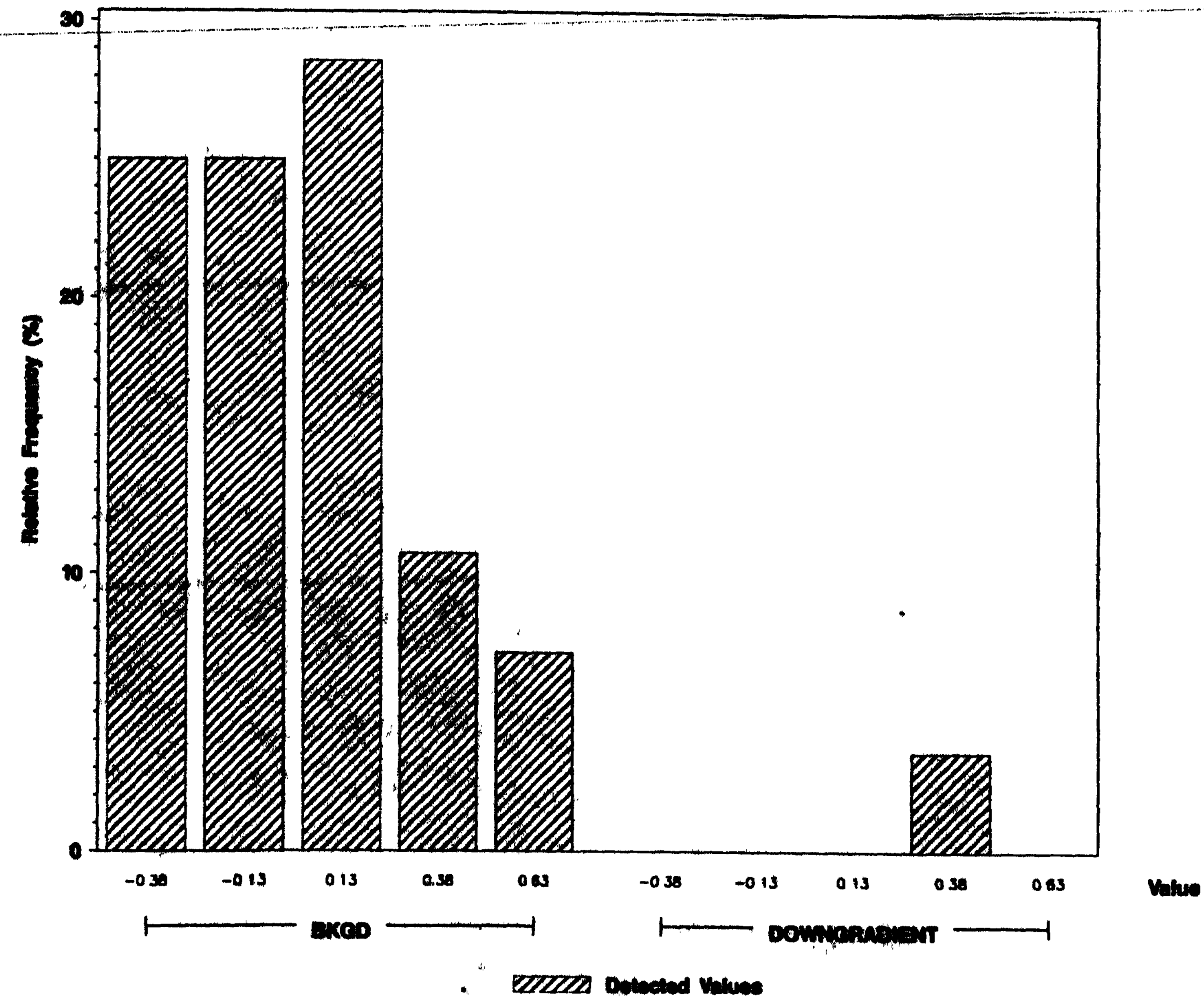
ANALYTE = AMERICIUM-241



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total CESIUM−137 (pCI/L) In Groundwater

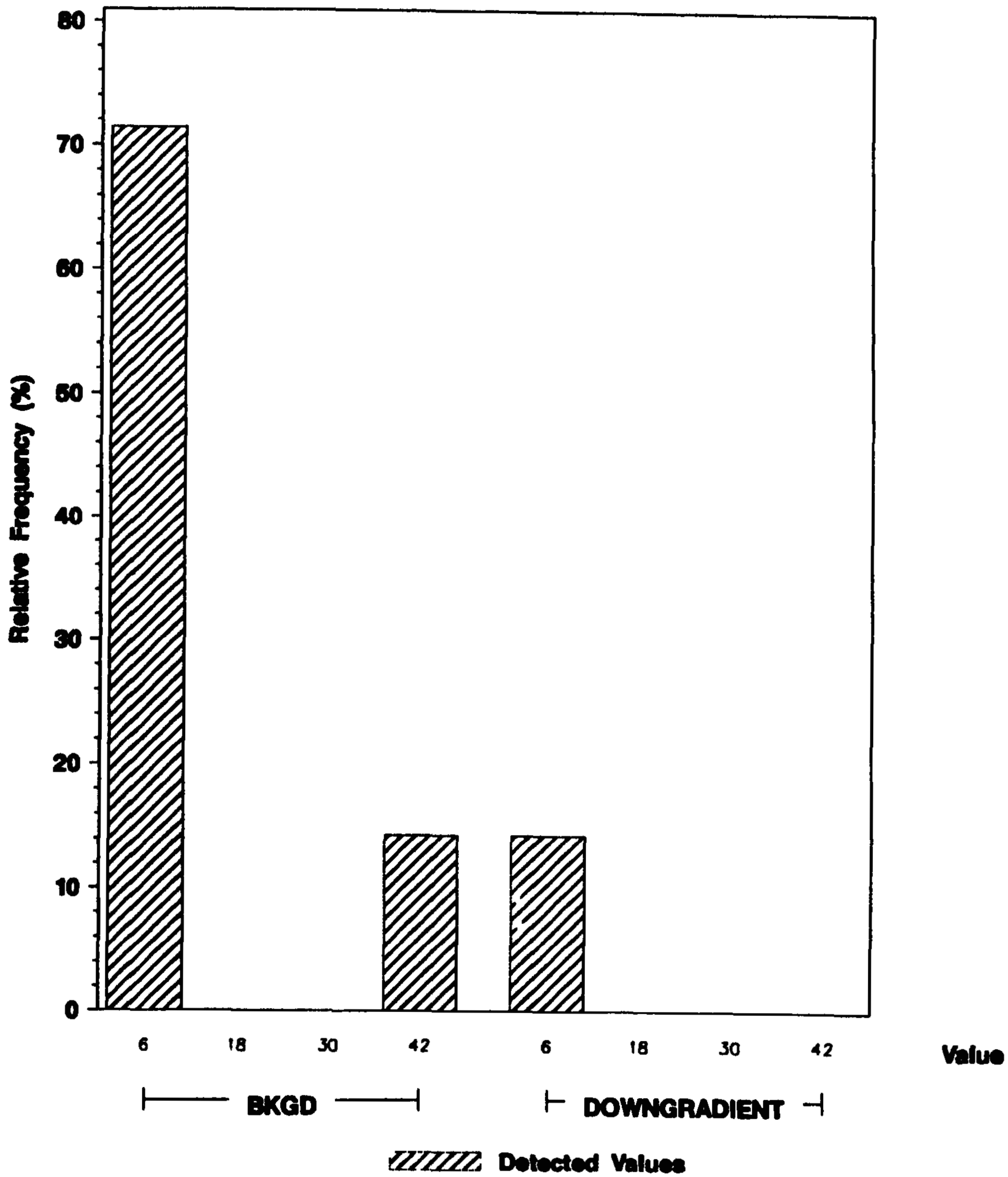
ANALYTE = CESIUM − 137



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total GROSS ALPHA (pCi/L) in Groundwater

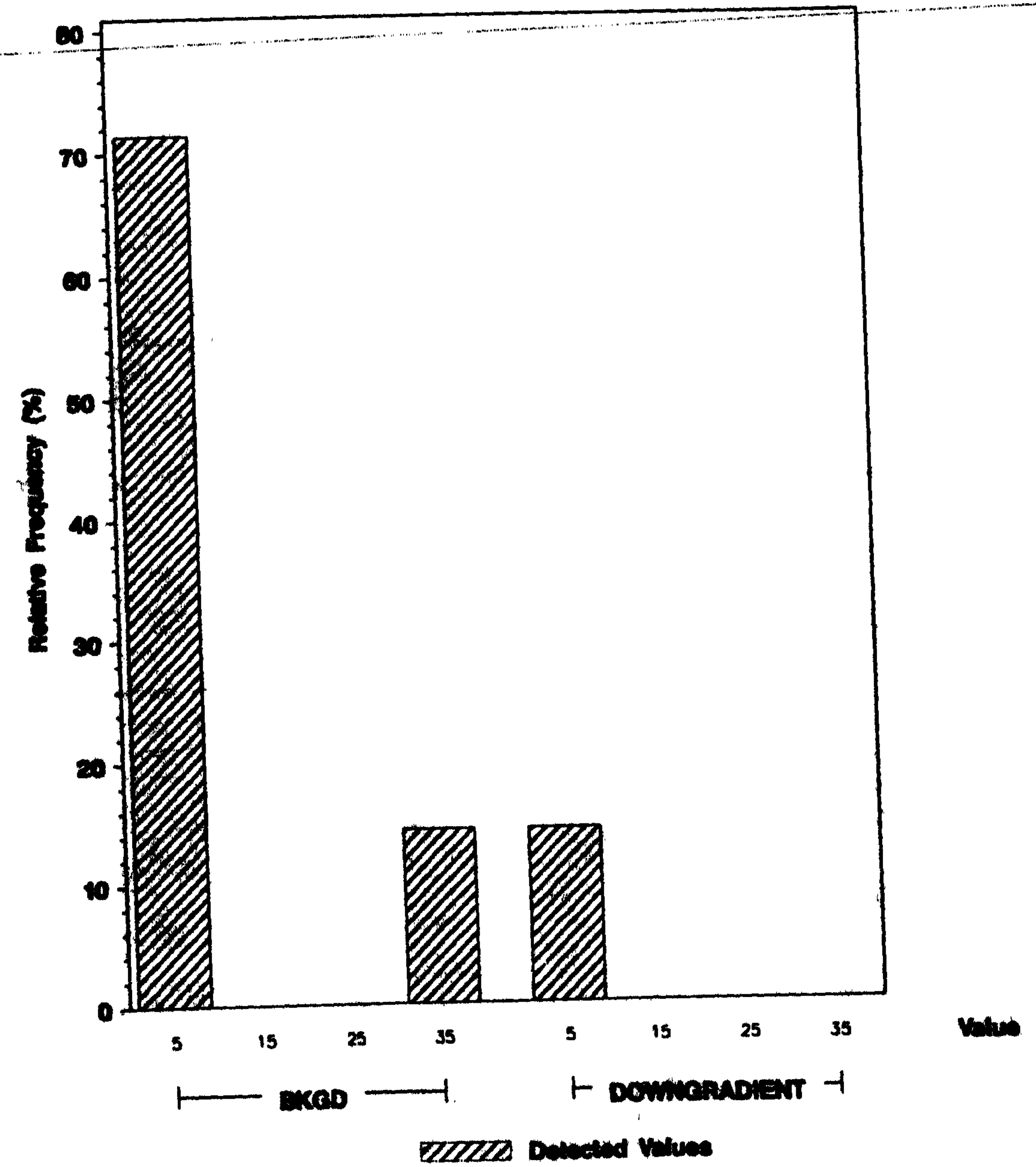
ANALYTE=GROSS ALPHA



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total GROSS BETA (pCi/L) in Groundwater

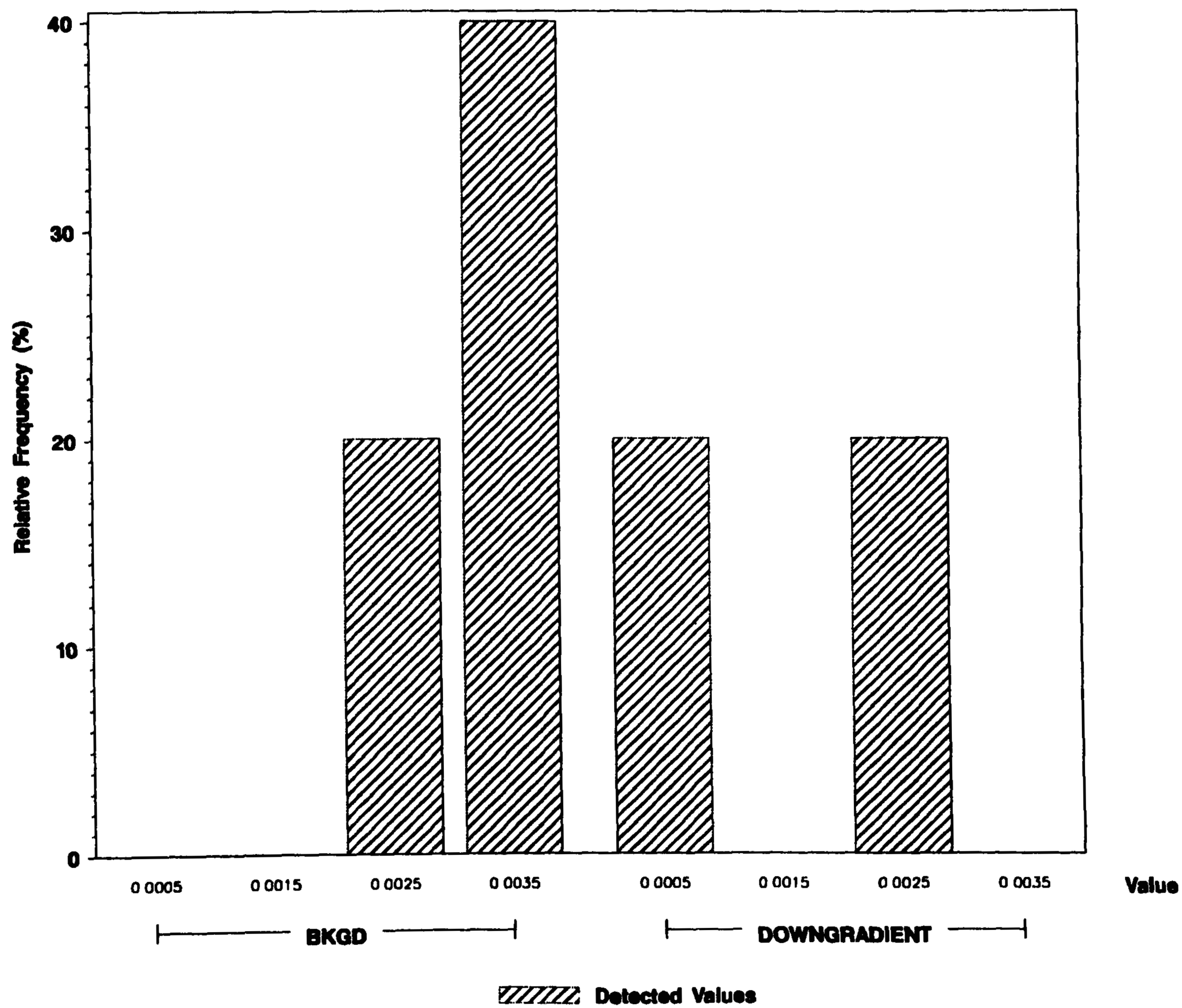
ANALYTE=GROSS BETA



Backg●und vs OU7 Downgradient Gro●ndwater (LHSU) Frequency Histogram

Total PLUTONIUM – 238 (pCi/L) in Groundwater

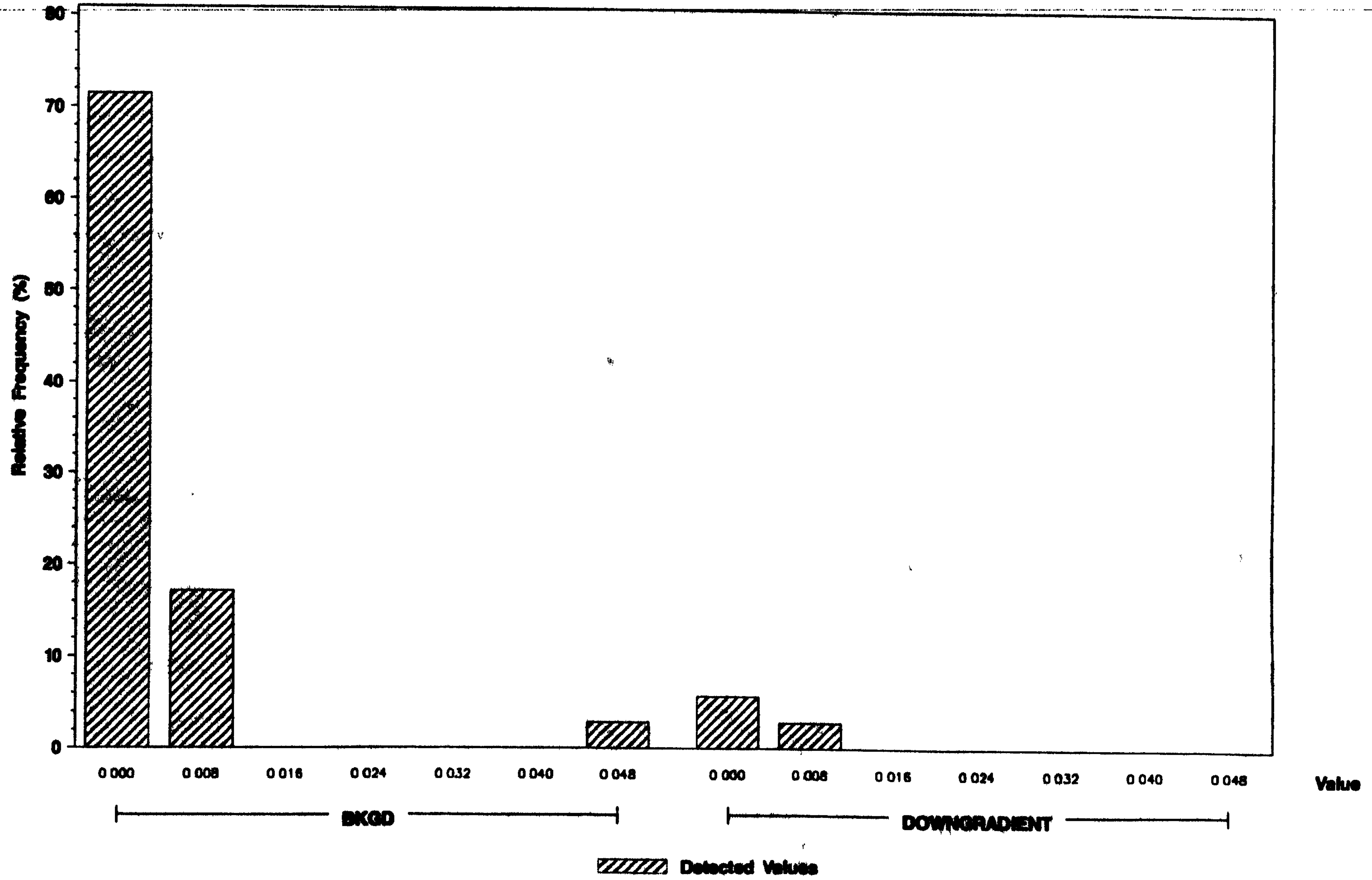
ANALYTE = PLUTONIUM – 238



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total PLUTONIUM – 239/240 (pCi/L) in Groundwater

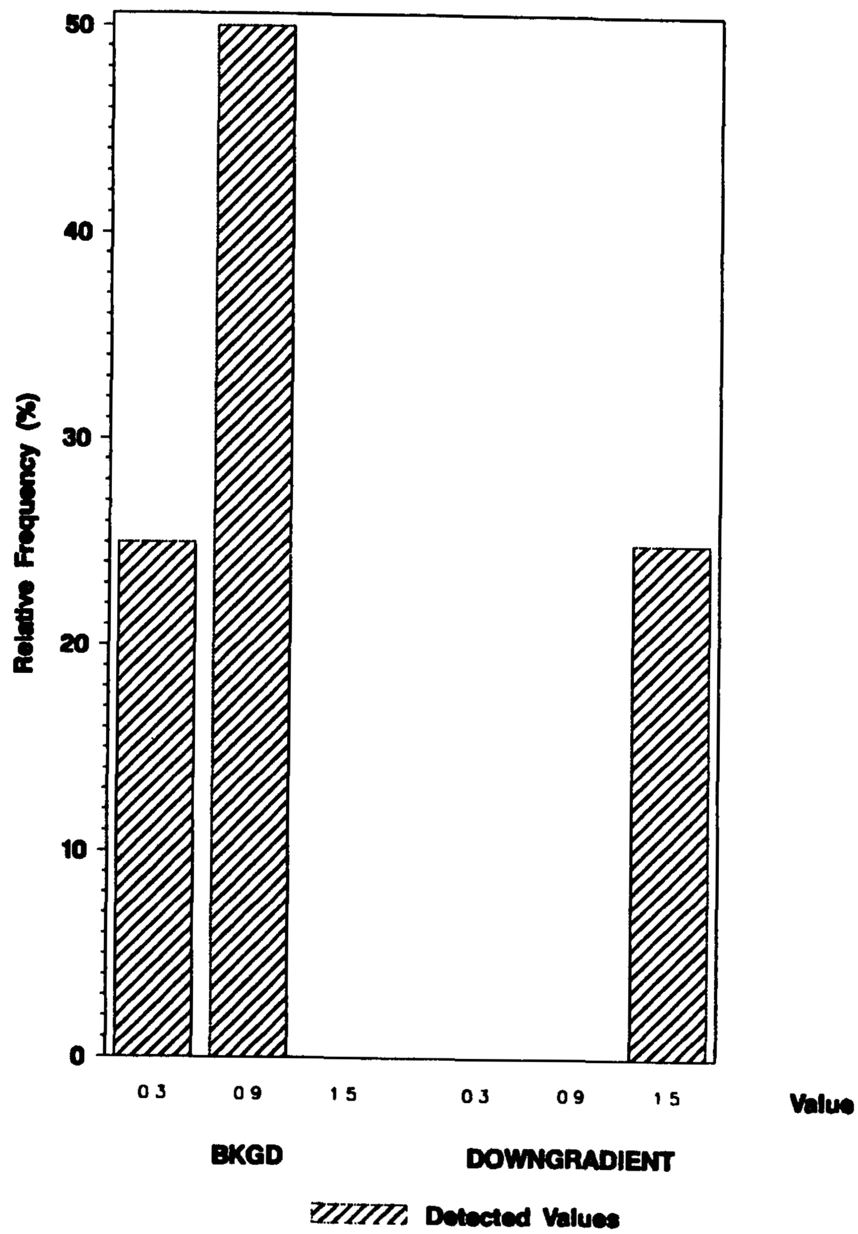
ANALYTE = PLUTONIUM – 239/240



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total RADIUM-226 (pCi/L) in Groundwater

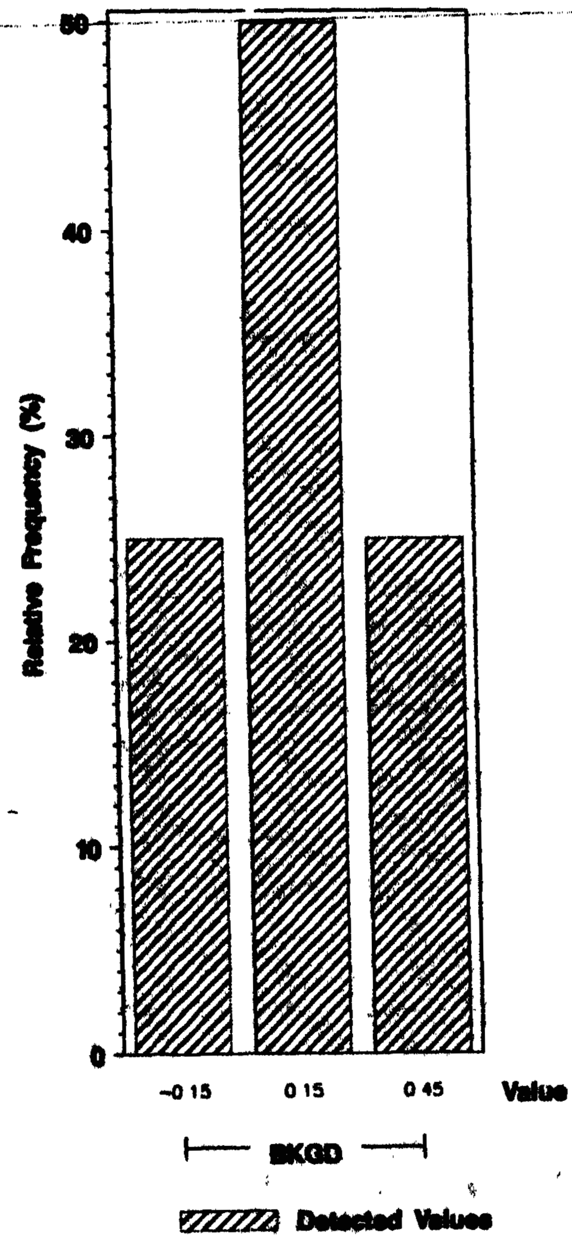
ANALYTE=RADIUM-226



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total STRONTIUM−89,90 (pCi/L) in Groundwater

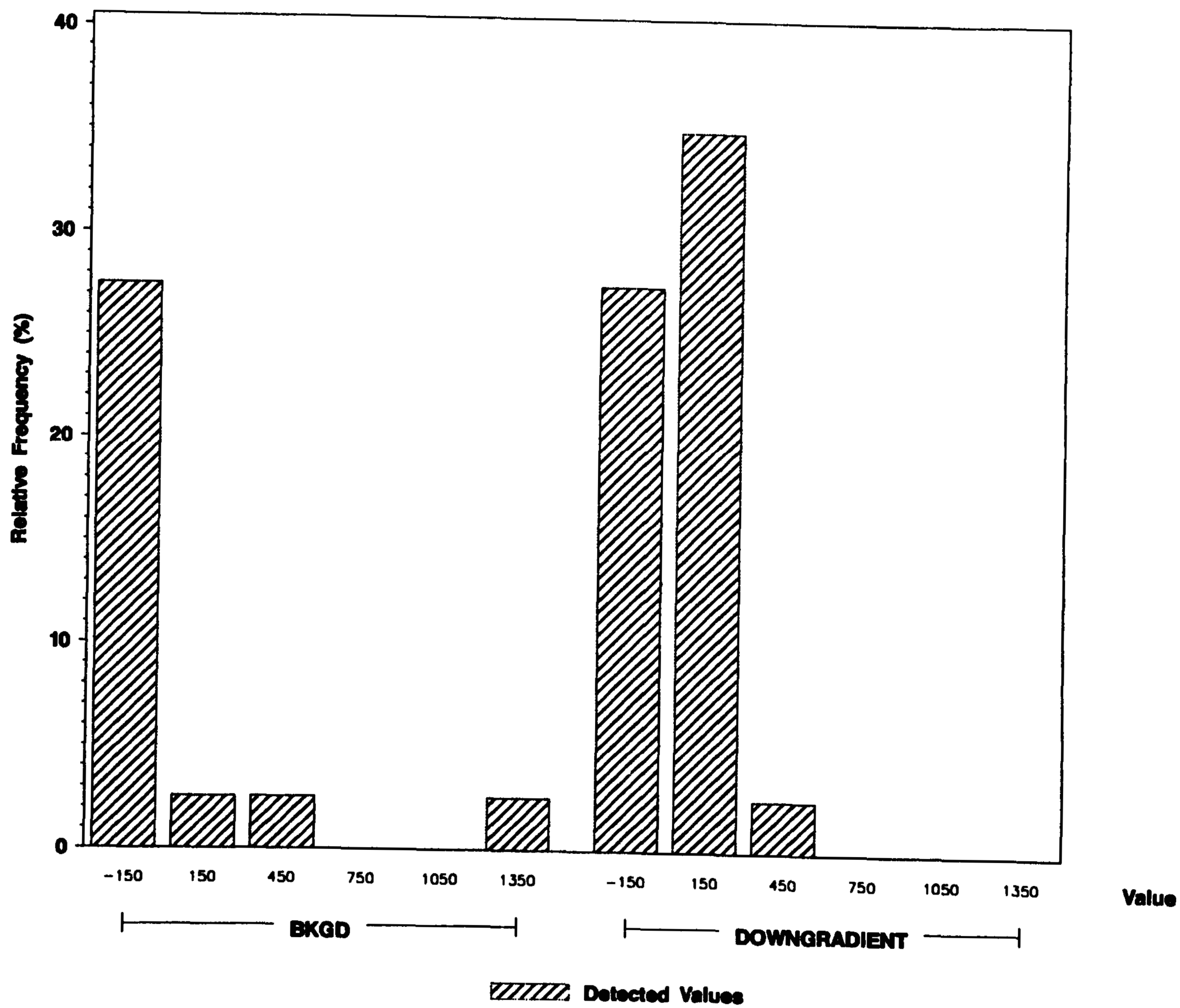
ANALYTE=STRONTIUM−89,90



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total TRITIUM (pCi/L) in Groundwater

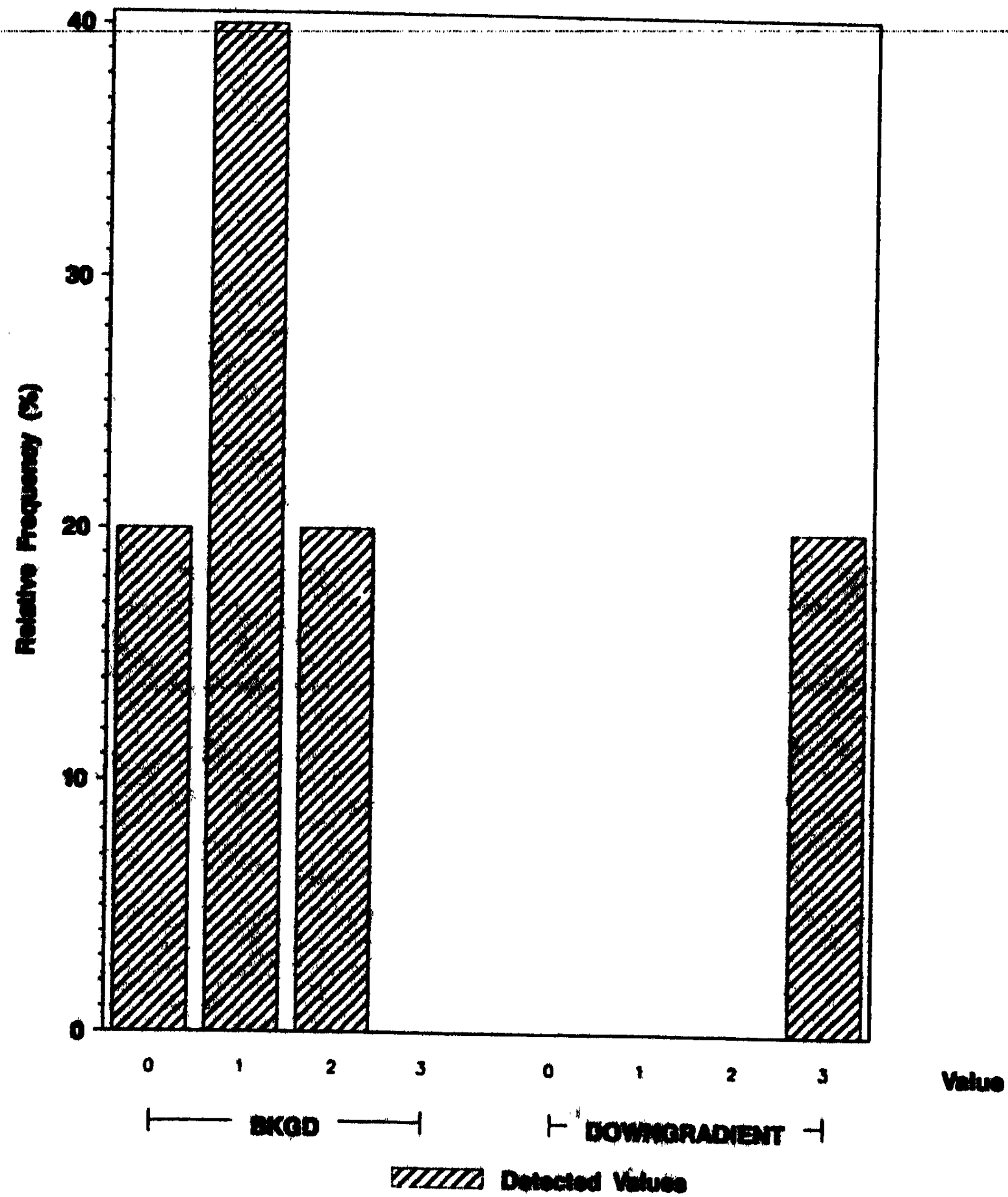
ANALYTE = TRITIUM



Background vs OU7 D‿wngradient Groundwater (LHSU) Frequency Histogram

Total URANIUM – 233, – 234 (pCI/L) In Groundwater

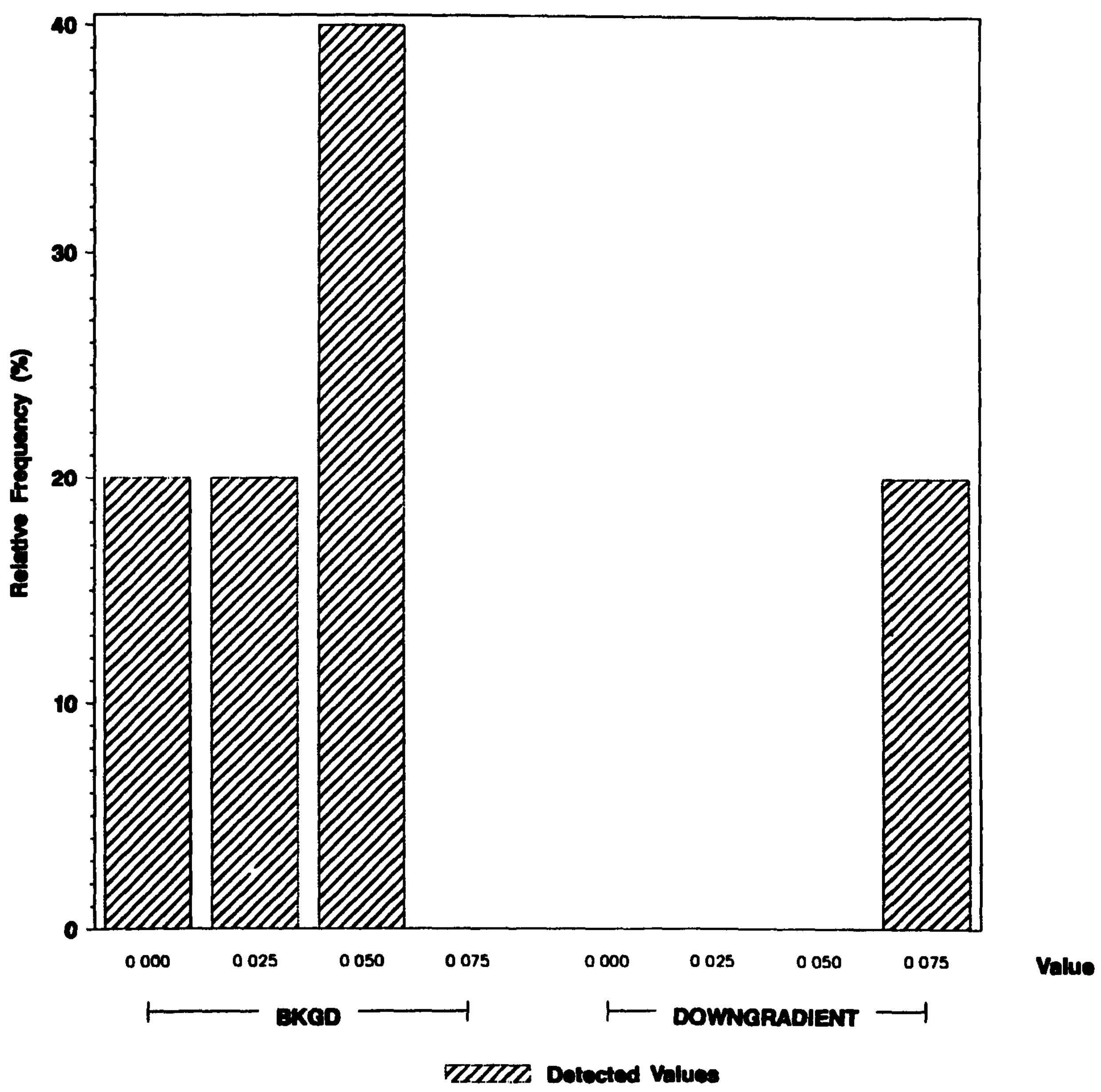
ANALYTE = URANIUM – 233, – 234



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total URANIUM – 235 (pCi/L) in Groundwater

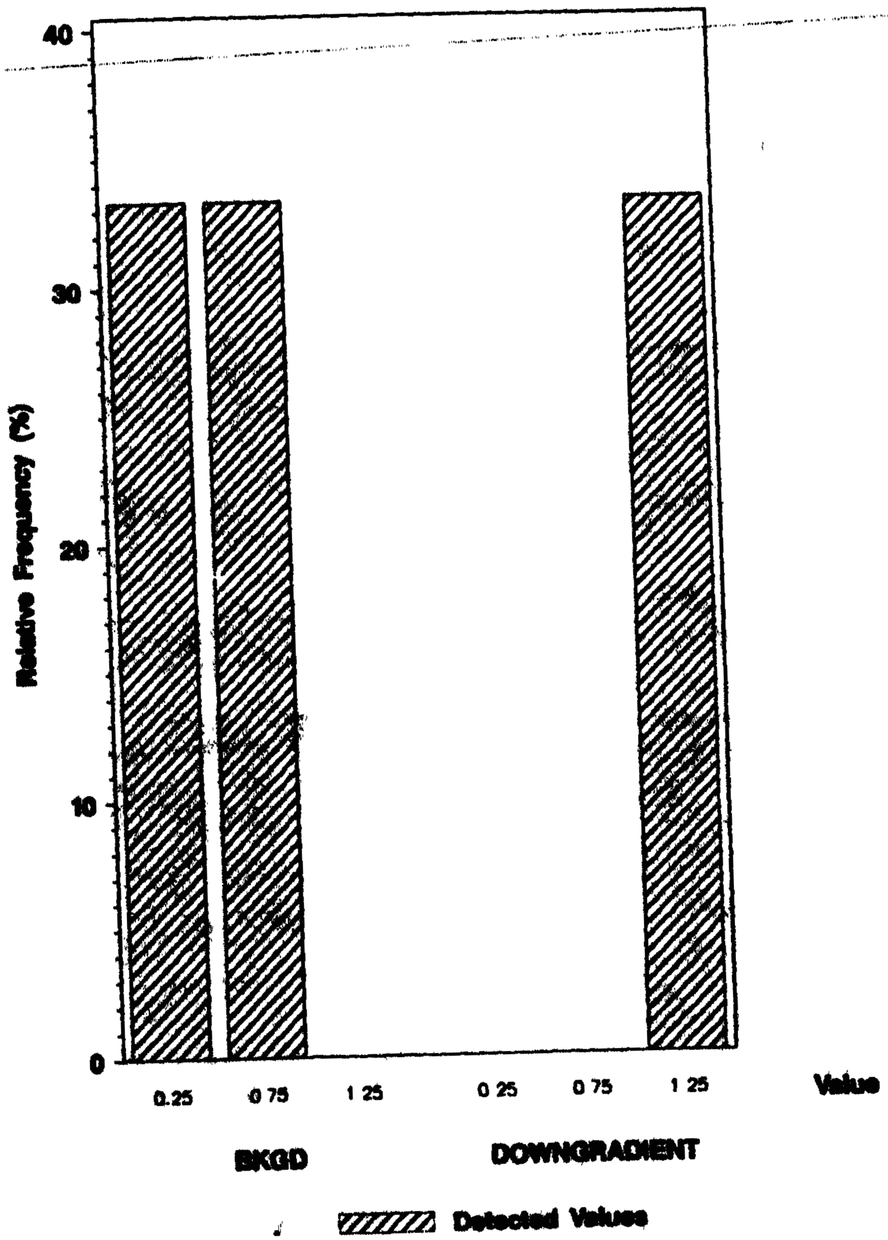
ANALYTE = URANIUM – 235



Background vs OU7 Downgradient Groundwater (LHSU) Frequency Histogram

Total URANIUM-238 (pCi/L) in Groundwater

ANALYTE=URANIUM-238



NOTICE:

DISKS

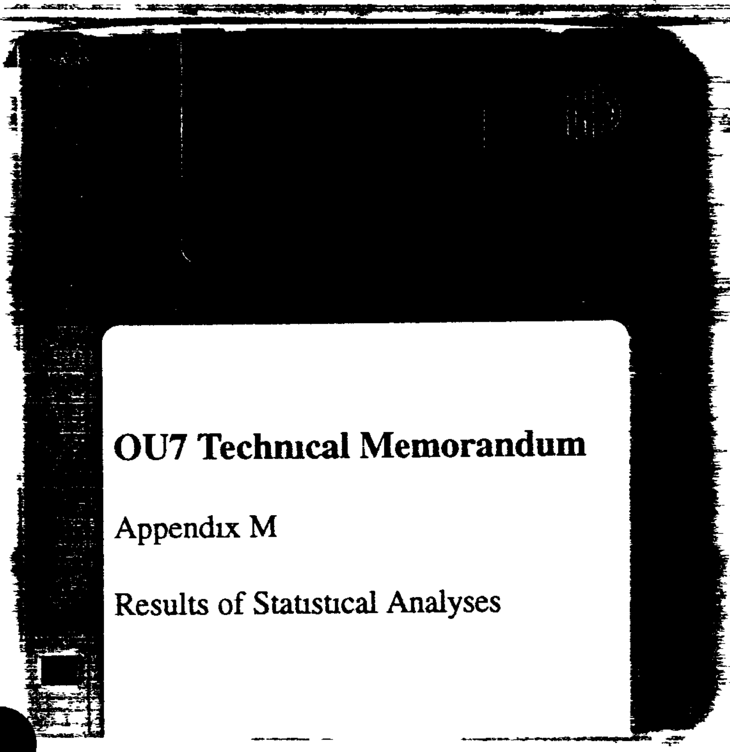
This document contains two computer disks which take the place of.

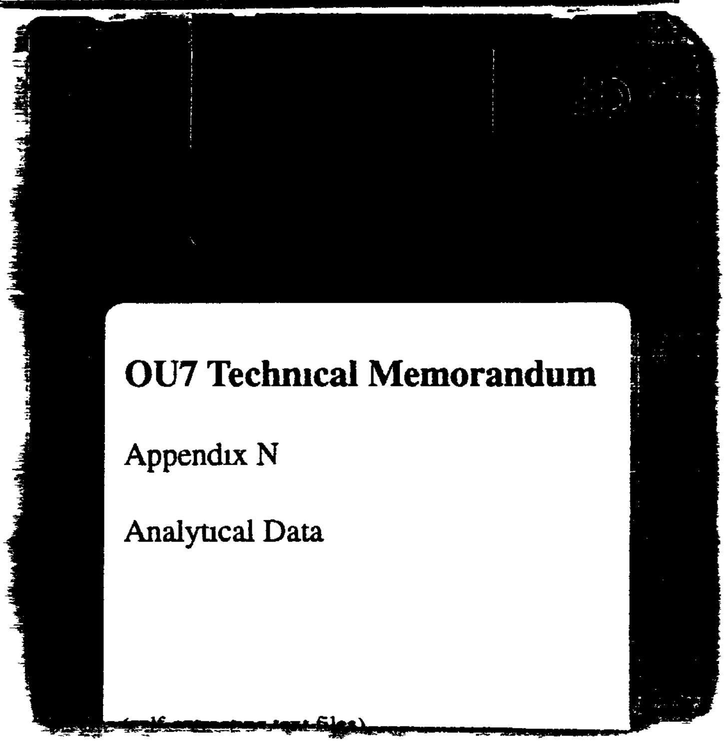
Appendix M	Results of Statistical Analyses
Appendix N	Analytical Data

These disks can be found in the original AR file at the Interlocken facility.

(OU07 Technical Memorandum, Vol. IV)

The Adminstrative Record Staff


OU7 Technical Memorandum
Appendix M
Results of Statistical Analyses


OU7 Technical Memorandum
Appendix N
Analytical Data

Appendix M

Results of Statistical Analyses

Hot Measurement Test

HOT MEASUREMENT TEST

The hot measurement test compares site concentrations against background upper tolerance interval of the 99th percentile at the 99-percent confidence level ($UTL_{99/99}$) concentrations for total and dissolved analytes. Test results for all media are included on the Appendix M disk. The files are self-extracting, compressed, text files To "decompress" the data, copy the files to a hard drive and type the file name followed by a Return. The names and contents of the files are.

BH_HOT.EXE		Subsurface Geologic Materials
	BH_HOT.TXT	
GWHOTLH.EXE		Groundwater - Lower hydrostratigraphic unit
	GWHOTLHD TXT	Dissolved analytes
	GWHOTLHT TXT	Total Analytes
GWHOTUH.EXE		Groundwater - Upper hydrostratigraphic unit
	GWHOTUHD TXT	Dissolved analytes
	GWHOTUHT.TXT	Total analytes
SEEP_HOT.EXE		Seep Water
	SEEP_HOT.TXT	SW097
SS_HOT EXE		Surface Soils
	SS114HOT TXT	IHSS 114
	SS203HOT TXT	IHSS 203
	SSELPHOT.TXT	East Landfill Pond area
SW_HOT.EXE		Surface Water
	SW98HOT.TXT	SW098
	SW99HOT.TXT	SW099
	SW100HOT.TXT	SW100

Summary Statistics

SUMMARY STATISTICS

Summary statistics were calculated for groundwater, pond-sediment, subsurface geologic materials, surface-soil, and surface-water data. All media were grouped by dissolved analyte and total analyte Additional grouping, or aggregation, of data varied by medium

Data Aggregation

Medium	Data Aggregation for Summary Statistics
Groundwater	Individual wells
	Hydrostratigraphic unit
Pond Sediments	All locations combined
Subsurface Geologic Materials	Each individual hazardous substance site (IHSS) or area and geologic unit combination
Surface Soils	Each IHSS or area and sample interval combination
Surface Water	Individual locations

Summary statistics are comprised of frequency of detects, maximum, minimum and mean concentration, standard deviation, and the upper tolerance interval of the 99th percentile at the 99-percent confidence level ($UTL_{99/99}$) All results identified as nondetects were assigned a new result value equal to one half the reported detection limit that was used in all calculations General information about each analyte is also included in the output files

File Format

The results of the summary statistics calculations are reported in electronic format. The following self-extracting text files are on the diskette labeled Appendix M

Groundwater	GW_SUMST EXE (contains GW_WELL TEXT and GW_HSU TEXT)
Pond Sediments	SD_SUMST EXE
Subsurface Geologic Materials	BH_SUMST EXE
Surface Soils	SS_SUMST EXE
Surface Water	SW_SUMST.EXE

The number and names of the first few columns vary depending on the aggregation criteria. The majority of the columns are identical for all files "NC" is used to identify calculations that were not performed for a given analyte

Reference

Hahn, G.J 1970 "Statistical Intervals for a Normal Population Part 1 Tables, Examples and Applications" *Journal of Quality Technology*, v 2, n. 3, p 115-125

Statistics Used to Generate Isoconcentration Maps

Appendix M
Statistics Used to Generate Isoconcentration Maps

Upper Hydrostratographic Unit		
Analyte	Concentration	Number of Detections
Average Detected SVOCs		
70093	4	1/16
70693	21	1/16
71193	7 5	2/16
71493	2 25	2/16
71693	25	1/16
71893	2 75	2/16
72093	33 667	1/16
72293	710 444	3/16
72393	716 778	3/16
Average Total Uranium-235		
1086	0 06	1/16
4087	0 593	1/16
4287	0 796	1/16
6087	0 09	2/16
6187	-0 1	1/16
6287	0	0/16
6687	0	0/16
6787	0	0/16
6887	0 1	1/16
70493	0 236	1/16
70693	0 04	1/16
71193	0	0/16
71493	0 041	1/16
7187	0 08	1/16
7287	0 1	1/16
B106089	0 068	2/16
B206189	0 44	1/16
B206289	0 477	3/16
B206489	0 181	2/16
B206589	1 092	3/16
B206889	2 62	1/16
B207089	0 351	1/16
Average Dissolved Uranium-238		
786	18 42	2/16
1086	0 096	12/16
4087	14 347	3/16
4287	2 831	4/16
5887	0 083	13/16
6087	0 077	12/16
6187	0 167	8/16
6287	0 141	10/16
6387	0 888	9/16

Appendix M
Statistics Used to Generate Isoconcentration Maps

Upper Hydrostratographic Unit		
Analyte	Concentration	Number of Detections
6487	0 495	11/16
6587	0 358	9/16
6687	0 386	12/16
6787	0 156	7/16
6887	0 129	11/16
70093	0 41	3/16
70193	0 426	3/16
70393	0 31	3/16
70493	2.028	3/16
70693	0 386	3/16
7087	6 643	6/16
71193	0 977	3/16
71493	1 773	3/16
71693	0.84	1/16
7187	0.48	13/16
71893	0 536	3/16
72093	1 631	2/16
72293	0 712	3/16
72393	0 593	3/16
7287	0 729	11/16
B106089	0 789	5/16
B206189	9 62	10/16
B206289	0 859	10/16
B206389	5.689	7/16
B206489	2 06	6/16
B206589	19 989	12/16
B206689	14 115	6/16
B206789	2 774	9/16
B206889	29 81	1/16
B207089	1 112	10/16
Average Total Americium-241		
1086	0 004	14/16
4087	0 002	1/16
4287	0.005	4/16
5887	0 004	12/16
6087	0 006	12/16
6187	0 004	10/16
6287	0 007	8/16
6387	0 069	9/16
6487	0 005	10/16
6587	0 039	10/16
6687	0 011	5/16
6787	0 008	8/16
6887	0 005	10/16

Appendix M
Statistics Used to Generate Isoconcentration Maps

Upper Hydrostratographic Unit		
Analyte	**Concentration**	**Number of Detections**
70093	0 007	3/16
70193	0 007	3/16
70393	0 004	3/16
70493	0 003	3/16
70693	0 013	2/16
7087	0 004	2/16
71193	0 005	1/16
71493	0 005	1/16
71693	0 006	1/16
7187	0 01	12/16
71893	0 006	3/16
72093	0 172	3/16
72293	0 011	2/16
72393	0 087	3/16
7287	0 005	9/16
B106089	0 002	3/16
B206189	0 008	10/16
B206289	0 014	2/16
B206389	0 002	4/16
B206489	0 005	2/16
B206589	0 009	12/16
B206789	-0 433	1/16
B207089	0 004	10/16
Average NO3/NO2		
786	86 667	3/16
1086	3154 545	11/16
4087	290	3/16
4287	97 5	4/16
5887	3571 429	14/16
6087	6214 286	14/16
6187	5375	12/16
6287	5700	11/16
6387	145	4/16
6487	91 667	6/16
6587	5190 909	11/16
6687	5450	12/16
6787	3785 714	7/16
6887	3632 143	14/16
70093	3066 667	1/16
70193	1573 333	1/16
70393	3100	1/16
70493	1966 667	1/16
70693	6550	1/16
7087	4260	10/16

Appendix M
Statistics Used to Generate Isoconcentration Maps

Upper Hydrostratographic Unit		
Analyte	**Concentration**	**Number of Detections**
71193	0	0/16
71493	270	1/16
7187	2120	10/16
71893	850	1/16
72093	0	0/16
72293	0	0/16
72393	0	0/16
7287	1140	11/16
B106089	1218 889	9/16
B206189	238.75	8/16
B206289	207 273	11/16
B206389	250	2/16
B206489	1217 778	9/16
B206589	448 182	11/16
B206689	818	10/16
B206789	6661 538	13/16
B206889	160250	8/16
B206989	50750	4/16
B207089	1101 818	11/16
Average Dissolved Americium-241		
1086	0 013	1/16
5887	0 002	1/16
6087	0 007	1/16
6187	0 002	1/16
6287	0 006	1/16
6387	0 009	1/16
6487	0 01	1/16
6787	0 047	1/16
6887	0 001	1/16
70093	0 001	2/16
70193	0 006	2/16
70393	0 01	2/16
70493	0 007	2/16
70693	0 005	2/16
71193	0 002	1/16
71693	0 004	1/16
7187	0 02	1/16
71893	0 003	2/16
72093	0 013	2/16
72293	0 051	1/16
72393	0 025	2/16
7287	-0 005	1/16
B207089	0 008	1/16

Appendix M
Statistics Used to Generate Isoconcentration Maps

Upper Hydrostratographic Unit		
Analyte	**Concentration**	**Number of Detections**
Average Total Uranium-238		
1086	0 06	1/16
4087	13 23	1/16
4287	3 683	1/16
5887	0 1	1/16
6087	0 175	2/16
6187	0	0/16
6287	0	0/16
6687	0 82	1/16
6787	0 14	1/16
6887	0 54	1/16
70493	1 693	1/16
70693	1	1/16
71193	1 2	1/16
71493	2 1	1/16
7187	0 5	1/16
7287	0 7	1/16
B106089	0 568	2/16
B206189	10 41	1/16
B206289	7 519	3/16
B206489	2 535	2/16
B206589	13 423	3/16
B206889	32 63	2/16
B207089	1 58	1/16
Average TDS		
786	1583333 333	3/16
1086	138090 909	11/16
4087	1120000	5/16
4287	327333 333	6/16
5887	161285 714	14/16
6087	243428 571	14/16
6187	155666 667	12/16
6287	167272 727	11/16
6387	528000	10/16
6487	324785 714	14/16
6587	226666 667	12/16
6687	446307 692	13/16
6787	178571 429	7/16
6887	203000	14/16
70093	170000	3/16
70193	244444 444	3/16
70393	208888 889	3/16
70493	226666 667	3/16
70693	405000	2/16

Appendix M
Statistics Used to Generate Isoconcentration Maps

Upper Hydrostratographic Unit		
Analyte	Concentration	Number of Detections
7087	507222 222	9/16
71193	191111 111	3/16
71493	176666.667	3/16
71693	450000	1/16
7187	274600	10/16
71893	250000	3/16
72093	1355555 556	3/16
72293	2211111 111	3/16
72393	1283333 334	2/16
7287	338181 818	11/16
B106089	334444 444	9/16
B206189	752909 091	11/16
B206289	371846 154	13/16
B206389	672500	8/16
B206489	359800	10/16
B206589	634846 154	13/16
B206689	555333 333	12/16
B206789	1206923 077	13/16
B206889	3630000	2/16
B206989	5100000	1/16
B207089	1993333 333	12/16
Average Dissolved Uranium-235		
786	0 713	2/16
1086	0 038	10/16
4087	0 516	3/16
4287	0 137	4/16
5887	0 044	11/16
6087	0 021	9/16
6187	0 01	9/16
6287	0 051	9/16
6387	0 059	8/16
6487	0 076	9/16
6587	0 044	7/16
6687	0 038	9/16
6787	0 038	5/16
6887	0 017	10/16
70093	0 033	3/16
70193	0 053	3/16
70393	0 043	3/16
70493	0 079	3/16
70693	0 043	3/16
7087	0 284	6/16
71193	0 032	3/16
71493	0 166	3/16

Appendix M
Statistics Used to Generate Isoconcentration Maps

Upper Hydrostratographic Unit		
Analyte	**Concentration**	**Number of Detections**
71693	0 115	1/16
7187	0 045	11/16
71893	0 08	3/16
72093	0 157	2/16
72293	0 196	2/16
72393	0 058	3/16
7287	0 041	11/16
B106089	0 098	5/16
B206189	0 5	10/16
B206289	0 105	7/16
B206389	0 315	7/16
B206489	0 146	6/16
B206589	0 917	12/16
B206689	0 566	6/16
B206789	0 186	9/16
B206889	0 92	1/16
B207089	0 065	9/16
Average Total Radium-226		
6887	1 32	1/16
B206189	0 46	1/16
B206489	0 36	1/16
B206589	0 593	2/16
B206789	0 87	1/16
Average Detected BTEX Compounds		
5887	99	1/16
6387	1 4	10/16
6487	16 614	7/16
6687	102	1/16
6787	0 1	1/16
7087	0 767	3/16
71193	6	1/16
71693	30	1/16
72093	14 5	2/16
72293	423 111	3/16
72393	345 222	3/16
7287	56	2/16
B106089	29 7	4/16
B206289	1	2/16
B206389	4 75	4/16
B206489	7 85	2/16
B206589	1 95	2/16
B206789	0 1	1/16
B206889	6 8	1/16

Appendix M
Statistics Used to Generate Isoconcentration Maps

Upper Hydrostratographic Unit		
Analyte	Concentration	Number of Detections
B206989	1	1/16
Average Dissolved Radium-226		
1086	0 14	1/16
4287	0 418	1/16
5887	0 17	1/16
6087	0.295	2/16
6187	0 175	2/16
6287	0 23	2/16
6387	0 575	3/16
6487	1 158	5/16
6587	0 325	2/16
6687	0 19	1/16
6787	0.2	1/16
6887	0.22	2/16
7087	0 419	2/16
7187	0 32	1/16
72093	1 575	2/16
72293	1 35	1/16
72393	1 21	2/16
7287	0 295	2/16
B206189	0 879	3/16
B206389	1 668	6/16
B206489	0 17	1/16
B206589	0 515	12/16
B206689	0 76	1/16
B206789	0 133	1/16
B207089	0 568	6/16
Average Detected Chlorinated Hydrocarbons		
786	1	1/16
1086	4	2/16
4087	1 5	2/16
4287	1	1/16
5887	2 76	10/16
6087	21	2/16
6287	3 5	2/16
6387	19 818	11/16
6487	29 8	14/16
6587	50 545	11/16
6687	46 357	14/16
6787	5 5	2/16
6887	13 48	5/16
70393	71 556	3/16
70493	3	1/16

Appendix M
Statistics Used to Generate Isoconcentration Maps

Upper Hydrostratographic Unit		
Analyte	**Concentration**	**Number of Detections**
70693	416 333	3/16
7087	2 54	5/16
71693	20	1/16
7187	17	2/16
71893	17 833	3/16
72293	12 25	2/16
72393	11 25	2/16
7287	67 615	13/16
B106089	31 154	13/16
B206189	4 25	8/16
B206289	6 25	4/16
B206389	277 857	7/16
B206489	31 75	14/16
B206589	1 5	2/16
B206789	3	1/16
B206889	6	2/16
B206989	5 333	3/16
B207089	7	3/16
Average Detected Total VOCs		
786	1	1/16
1086	4	2/16
4087	1 5	2/16
4287	1	1/16
5887	12 66	10/16
6087	19 333	3/16
6187	18	1/16
6287	3 5	2/16
6387	21 091	11/16
6487	41 536	14/16
6587	51	11/16
6687	53 643	14/16
6787	15 033	3/16
6887	14 067	6/16
70393	71 556	3/16
70493	3	1/16
70693	416 333	3/16
7087	4 571	7/16
71193	6	1/16
71693	50	1/16
7187	14	3/16
71893	17 833	3/16
72093	20 25	2/16
72293	730 556	3/16
72393	380 889	3/16

Appendix M
Statistics Used to Generate Isoconcentration Maps

Upper Hydrostratographic Unit		
Analyte	Concentration	Number of Detections
7287	76 538	13/16
B106089	43 215	13/16
B206189	5.25	8/16
B206289	9 833	6/16
B206389	289.286	7/16
B206489	36.229	14/16
B206589	5 633	3/16
B206689	9 5	2/16
B206789	4 7	3/16
B206889	10 7	4/16
B206989	5 667	3/16
B207089	5 75	4/16

Results of Inferential Statistical Tests

Results of Inferential Statistical Tests
IHSS 203 Surface Soils (0 to 2 inches) vs Sitewide Background Surface Soils
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Aluminum	1.00000	1	1.00000	1.00000	
Americium-241	0.78435	0.24508	0.36657	0.11793	
Antimony	0.5	1	NA	NA	
Arsenic	0.99999	1	0.99998	0.99994	
Barium	1.00000	1	1.00000	0.99999	
Beryllium	0.98373	1	NA	NA	
Cadmium	0.99799	1	NA	NA	
Calcium	0.056241	0.010467	0.038338	0.010150	X
Cesium	0.5	1	NA	NA	
Cesium-137	1.00000	1	1.00000	NA	
Chromium	1.00000	1	1.00000	1.00000	
Cobalt	0.99497	0.71014	0.94319	0.96653	
Copper	0.028832	0.24508	0.15173	0.019288	X
Gross Alpha	0.95705	0.68732	0.97783	0.97036	
Gross Beta	0.38863	0.83051	0.34268	0.29522	
Iron	0.99795	1	0.97608	0.99972	
Lead	1.00000	1	1.00000	1	
Lithium	0.94178	1	1	NA	
Magnesium	0.92437	1	0.94319	0.95744	
Manganese	1.00000	1	0.99765	0.97515	
Mercury	0.36299	1	NA	NA	
Molybdenum	0.99940	1	NA	NA	
Nickel	0.97390	1	0.98626	0.98593	
Nitrate/Nitrite	1	1	NA	NA	
Plutonium-239,240	0.099977	0.26969	0.98778	0.36277	

NA = Statistical Test Not Applicable

OU7/2030_2

Results of Inferential Statistical Tests
IHSS 203 Surface Soils (0 to 2 inches) vs. Sitewide Background Surface Soils
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Potassium	1 00000	1	1	1 00000	
Radium-226	0 045833	0 050519	0.050519	0.071666	X
Selenium	1	1	NA	NA	
Silicon	0 43437	1	1	NA	
Silver	0 44750	1	NA	NA	
Sodium	0.43132	1	NA	NA	
Strontium	0.95068	1	1	NA	
Thallium	0.99762	1	NA	NA	
Tin	0 90821	1	NA	NA	
Tritium	0 99999	1	NA	NA	
Uranium-233,234	0.99979	0 75385	0.99961	1.00000	
Uranium-235	0 81555	0.75385	0.82676	0 56941	
Uranium-238	0 99992	1	0.99984	0.99999	
Vanadium	0.97747	0 71014	0.98626	0 99112	
Zinc	1 00000	1	1.00000	1.00000	

NA = Statistical Test Not Applicable

OU7/2030_2

Results of Inferential Statistical Tests
IHSS 203 Surface Soils (0 to 10 inches) vs Sitewide Background Surface Soils (Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0 05)
Aluminum	0 99894	1	0 99584	0 99838	
Americium-241	0 88859	1	0 55300	0 95543	
Antimony	0 5	1	NA	NA	
Arsenic	0 97928	1	0 99584	0 98209	
Barium	1 00000	1	1	NA	
Beryllium	0 61583	1	NA	NA	
Cadmium	0 99929	1	NA	NA	
Calcium	0 067278	0 011586	0 058267	0 12895	X
Cesium	0 5	1	NA	NA	
Cesium-137	1 00000	1	1	1 00000	
Chromium	0 99905	1	0 99822	0 99943	
Cobalt	0 93482	1	0 87800	NA	
Copper	0 0096166	0 030897	0 058267	0 013065	X
Gross Alpha	0 99848	1	0 98482	0 99912	
Gross Beta	0 81731	1	0 61267	0 65229	
Iron	0 71672	0 44444	0 51422	0 75554	
Lead	1 00000	1	1	1 0000	
Lithium	0 99999	1	1	NA	
Magnesium	0 71129	1	0 95485	0 82937	
Manganese	0 99406	1	0 80114	NA	
Mercury	NA	1	NA	NA	
Molybdenum	0 97289	1	NA	NA	
Nickel	0 40557	0 19048	0 80114	0 38997	
Nitrate/Nitrite	0 5	1	NA	NA	
Potassium	1 00000	1	1	1 00000	

NA = Statistical Test Not Applicable

OU7/2030_10

Results of Inferential Statistical Tests
IHSS 203 Surface Soils (0 to 10 inches) vs. Sitewide Background Surface Soils (Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Radium-226	0 5	1	1	NA	
Radium-228	0.5	1	1	NA	
Selenium	0.99999	1	NA	NA	
Silicon	0.63692	1	1	NA	
Silver	0.5	1	NA	NA	
Sodium	0.094083	0 19048	NA	NA	
Strontium	0.25188	1	0 058267	NA	
Strontium-89,90	0 99978	1	1	NA	
Thallium	0 93661	1	NA	NA	
Tin	0.99992	1	NA	NA	
Uranium-233,234	0 16528	0.51515	0.50904	0.24400	
Uranium-235	0.23563	1	0.53670	NA	
Uranium-238	0.37287	1	0.82640	0.36228	
Vanadium	0 64290	0 44444	0.80114	0.77943	
Zinc	0 99999	1	0.99584	0.99998	

NA = Statistical Test Not Applicable

Results of Inferential Statistical Tests
IHSS 114 Surface Soils (0 to 2 inches) vs Sitewide Background Surface Soils
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Aluminum	0 99076	1	0 95325	0 99348	
Americium-241	0 94370	0.26829	0 56503	0 82580	
Antimony	0 5	1	NA	NA	
Arsenic	0 98583	1	0 97759	0 98353	
Barium	1 00000	1	1	0 99993	
Beryllium	0 14693	1	NA	NA	
Cadmium	0 99945	1	NA	NA	
Calcium	0 0000039004	0 0011156	0 0011156	0 0000042329	X
Cesium	0 5	1	NA	NA	
Cesium-134	1 00000	1	NA	NA	
Cesium-137	1 00000	1	1	1 00000	
Chromium	0 99492	0 52381	0 95325	0 99097	
Cobalt	0 89854	1	0 97759	0 93503	
Copper	0 51005	0 26829	0 89646	0 14218	
Gross Alpha	0 99991	1	1	0 99999	
Gross Beta	0 86846	0 6875	0 62442	NA	
Iron	0 78993	1	0 70377	0 91029	
Lead	1 00000	1	1	1	
Lithium	0 99998	1	1	0 99998	
Magnesium	0 86338	1	0 99962	0 95588	
Manganese	1 00000	1	0 99962	0 98069	
Mercury	NA	1	NA	NA	
Molybdenum	0 90933	1	NA	NA	
Nickel	0.21372	1	0 81938	0 17262	
Potassium	1 00000	1	1	1 00000	

NA = Statistical Test Not Applicable

OU7/1140_2

Results of Inferential Statistical Tests
IHSS 114 Surface Soils (0 to 2 inches) vs. Sitewide Background Surface Soils
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Radium-226	0 99870	1	0.97347	0 99944	
Radium-228	0.98689	1	1	0 99277	
Selenium	1 00000	1	NA	NA	
Silicon	0.81440	1	1	0.99758	
Silver	0.5	1	NA	NA	
Sodium	0.59993	1	NA	NA	
Strontium	0 71023	1	0 81938	0 79663	
Strontium-89,90	0 99963	0.61538	0 99909	NA	
Thallium	0.64312	1	NA	NA	
Tin	0 99996	1	NA	NA	
Uranium-233,234	0 99963	1	0.95676	0 99993	
Uranium-235	0 98619	1	0 99459	0 92678	
Uranium-238	0.99845	1	0.99459	0.99957	
Vanadium	0 87158	1	0 98325	0 95097	
Zinc	1 00000	1	1	1 00000	

NA = Statistical Test Not Applicable

OU7/1140_2

Results of Inferential Statistical Tests
East Landfill Pond Surface Soils (0 to 2 inches) vs Sitewide Background Surface Soils
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Aluminum	0.99771	1	0.96174	0.99315	
Americium-241	0.95096	0.19713	0.61981	0.23822	
Antimony	0.5	1	NA	NA	
Arsenic	0.99121	0.48891	0.99137	0.96800	
Barium	0.65264	0.86842	0.92058	0.64576	
Beryllium	0.54520	1	NA	NA	
Cadmium	0.99778	1	NA	NA	
Calcium	0.00024296	0.10768	0.17500	0.00010140	X
Cesium	0.5	1	NA	NA	
Cesium-137	1.00000	1	1.00000	NA	
Chromium	0.99999	0.86842	1.00000	0.99983	
Cobalt	0.12382	1	0.38106	0.62718	
Copper	0.10444	0.86842	0.61459	0.13151	
Gross Alpha	0.99809	1	0.99938	0.99817	
Gross Beta	1.00000	1	0.99997	0.99691	
Iron	0.99969	0.75340	0.99977	0.99764	
Lead	0.99999	0.48891	0.99327	0.99999	
Lithium	0.99951	1	1	NA	
Magnesium	0.82081	0.86842	0.99137	0.88443	
Manganese	1.00000	1	0.99977	0.97781	
Mercury	0.35590	1	NA	NA	
Molybdenum	0.97979	1	NA	NA	
Nickel	0.96089	0.86842	0.99327	0.93009	
Nitrate/Nitrite	0.35197	0.076651	0.10803	NA	
Plutonium-239,240	0.99314	0.14607	0.84148	0.61968	

NA = Statistical Test Not Applicable

ou7/elp0_2

Results of Inferential Statistical Tests
East Landfill Pond Surface Soils (0 to 2 inches) vs. Sitewide Background Surface Soils
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Potassium	1.00000	1	1.00000	1.00000	
Radium-226	0.27922	0 014801	0 072643	0.24473	X
Radium-228	0.99737	1	0 99991	0.99356	
Selenium	0 91353	1	NA	NA	
Silicon	0.45948	1	1	NA	
Silver	0.33057	1	1	NA	
Sodium	0 96372	0.86842	NA	NA	
Strontium	0 0068164	1	0 038350	0.0065623	X
Strontium-89,90	0.99996	0 92908	1.00000	NA	
Thallium	0 99965	1	NA	NA	
Tin	0.99909	1	NA	NA	
Tritium	1	1	NA	NA	
Uranium-233,234	1.00000	0.89041	0.99999	1.00000	
Uranium-238	1.00000	0 89041	1.00000	1 00000	
Vanadium	0.84271	0.65295	0.61459	0.74091	
Zinc	0.49783	0.75340	0.32442	0.65981	

NA = Statistical Test Not Applicable

ou7/elp0_2

Results of Inferential Statistical Tests
East Landfill Pond Surface Soils (0 to 10 inches)
vs Sitewide Background Surface Soils
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0 05)
Aluminum	0 67297	0 77273	0 36700	0 54085	
Americium 241	0 99999	0 77011	0 99999	0 99971	
Antimony	0 5	1	NA	NA	
Arsenic	0 94113	0 45670	0 93166	0 83755	
Barium	0 70633	0 59509	0 36700	0 50641	
Beryllium	0 99988	1	NA	NA	
Cadmium	1 00000	1	NA	NA	
Calcium	0 020366	0 15271	0 12820	0 0057992	X
Cesium	0 5	1	NA	NA	
Cesium-137	1 00000	1	NA	NA	
Chromium	0 90899	0 59509	0 61387	0 88849	
Cobalt	0 86611	1	0 36700	NA	
Copper	0 19725	1	0 55744	0.23519	
Gross Alpha	0 99982	1	1 00000	0 99990	
Gross Beta	1 00000	1	0 99998	NA	
Iron	0 99519	0 77273	0 81496	0 99246	
Lead	1 00000	1	1 00000	1 00000	
Lithium	0 99998	1	0 99993	0 99997	
Magnesium	0 74766	1	0 98080	0 85423	
Manganese	1 00000	1	1 00000	0 98978	
Mercury	0.27310	1	NA	NA	
Molybdenum	0 71308	1	NA	NA	
Nickel	0 50795	0 45670	0 81496	0 46554	
Nitrate/Nitrite	0 73834	0 30548	0 53377	NA	
Plutonium-239,240	1 00000	0 74444	1 00000	0 99966	

NA = Statistical Test Not Applicable

**Results of Inferential Statistical Tests
East Landfill Pond Surface Soils (0 to 10 inches)
vs. Sitewide Background Surface Soils
(Totals)
P-Values**

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Potassium	1 00000	1	1.00000	1 00000	
Radium-226	0.96954	0.5	0.84461	0 97474	
Radium-228	0.99905	1	1.00000	0 99822	
Selenium	0.99595	0.59509	NA	NA	
Silicon	0 74447	1	0 99936	0.99537	
Silver	NA	1	NA	NA	
Sodium	0 78644	1	NA	NA	
Strontium	0 0017643	1	0.15789	0 052902	
Strontium-89,90	0.99997	1	1.00000	NA	
Thallium	0.82853	1	NA	NA	
Tin	1 00000	1	NA	NA	
Tritium	1	1	NA	NA	
Uranium-233,234	0.99999	1	1 00000	1.00000	
Uranium-235	0 89376	1	0 93248	NA	
Uranium-238	0 99984	1	0.99960	0 99992	
Vanadium	0 45047	0.11500	0 61387	0.34448	
Zinc	0 97863	1	0 61387	0 97427	

NA = Statistical Test Not Applicable

OU7/elp1_10

Results of Inferential Statistical Tests
Upgradient Subsurface Geologic Materials (70493 and 70593)
vs Sitewide Background Subsurface Geologic Materials
Rocky Flats Alluvium
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0 05)
Aluminum	0 99041	1	0 98821	NA	
Americium-241	0 014956	0 012821	0 57692	0 051281	X
Antimony	0 99777	1	NA	NA	
Arsenic	0 15479	1	0 46864	NA	
Barium	0 88363	1	0 98733	NA	
Beryllium	1 00000	1	1	NA	
Cadmium	0 92666	1	NA	NA	
Calcium	0 99062	1	1	NA	
Cesium-137	0 016023	0.23404	0 00047549	NA	X
Cesium	NA	1	NA	NA	
Chromium	0.25357	1	0 46864	NA	
Cobalt	0 87202	1	NA	NA	
Copper	0 72502	1	0 46864	NA	
Gross Alpha	0 99941	1	1	0 99941	
Gross Beta	0 0047686	1	0 039367	0 0023122	X
Iron	0 34925	1	0 74046	NA	
Lead	0 92219	1	0 91398	NA	
Lithium	0 99998	1	NA	NA	
Magnesium	0 99891	1	0 99075	NA	
Manganese	0 82397	1	0 73060	NA	
Mercury	0 99933	1	NA	NA	
Molybdenum	1 00000	1	NA	NA	
Nickel	0 96938	1	0 98987	NA	
Nitrate/Nitrite	1 00000	1	NA	NA	

NA = Statistical Test Not Applicable

OU7/45BKRFT

Results of Inferential Statistical Tests
Upgradient Subsurface Geologic Materials (70493 and 70593)
vs. Sitewide Background Subsurface Geologic Materials
Rocky Flats Alluvium
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Plutonium-239,240	0.5	1	1	NA	
Potassium	0 99628	1	NA	NA	
Radium-226	0 0090150	1	0.35587	NA	X
Radium-228	0.058975	0.060908	0.033824	0 042549	X
Selenium	0 71361	1	NA	NA	
Silicon	0 82417	1	NA	NA	
Silver	0 99573	1	NA	NA	
Sodium	0 99999	1	NA	NA	
Strontium-89,90	0.11102	1	0.94815	1 00000	
Strontium	0 97020	1	NA	NA	
Thallium	0 97404	1	NA	NA	
Tin	0 99205	1	NA	NA	
Tritium	0.97355	1	0.95091	0.93783	
Uranium-233,234	0.5	1	1	NA	
Uranium-235	0 017614	1	0 16350	NA	X
Uranium-238	0 0000076481	1	0.00047549	NA	X
Vanadium	0 94098	1	0 91398	NA	
Zinc	0 91552	1	0 98821	NA	

NA = Statistical Test Not Applicable

Results of Inferential Statistical Tests
Upgradient Subsurface Geologic Materials (70493 and 70593)
vs Sitewide Background Subsurface Geologic Materials
Weathered Bedrock
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0 05)
Aluminum	0 99734	1	1	0 99860	
Americium-241	1 00000	1	NA	NA	
Antimony	0 5	1	1	NA	
Arsenic	0 93232	1	0 94706	0 92058	
Barium	0 021654	0 47059	0 24118	0 042097	X
Beryllium	0 99973	1	1	1 00000	
Cadmium	NA	1	NA	NA	
Calcium	0 00026391	0 000041135	0 029412	NA	X
Cesium-137	1 00000	1	NA	NA	
Cesium	NA	1	NA	NA	
Chromium	0 99947	1	1	0 99962	
Cobalt	0 77125	1	NA	NA	
Copper	0 16796	1	0.24118	0 37693	
Gross Alpha	1 00000	1	NA	NA	
Gross Beta	1 00000	1	NA	NA	
Iron	0 99737	1	1	0 99022	
Lead	0 00026600	0 000041135	0 029412	0 00000048725	X
Lithium	0 99962	1	1	0 99908	
Magnesium	0 42369	1	0 66471	0 54615	
Manganese	0 99647	1	0 94706	0 99635	
Mercury	0 24587	1	NA	NA	
Molybdenum	0 99952	1	NA	NA	
Nickel	0 91130	1	0 66471	NA	
Nitrate/Nitrite	0 99826	1	NA	NA	

NA = Statistical Test Not Applicable

OU7/45BKWCT

Results of Inferential Statistical Tests
Upgradient Subsurface Geologic Materials (70493 and 70593)
vs. Sitewide Background Subsurface Geologic Materials
Weathered Bedrock
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Plutonium-239,240	0.5	1	1	NA	
Potassium	0 99205	1	NA	NA	
Radium-226	0 0086106	0.010101	0.25455	0 033042	X
Radium-228	0 99992	1	NA	NA	
Selenium	0 5	1	NA	NA	
Silicon	0.5	1	NA	NA	
Silver	0 99983	1	1	NA	
Sodium	0 98709	1	NA	NA	
Strontium-89,90	0.28161	1	0 94706	0 99905	
Strontium	0 00083879	0 0022624	0.029412	NA	X
Thallium	0.5	1	NA	NA	
Tin	0 99984	1	1	NA	
Tritium	1.00000	1	NA	NA	
Uranium-235	1 00000	1	NA	NA	
Uranium-238	1 00000	1	NA	NA	
Vanadium	0 99973	1	1	0 99973	
Zinc	0 021654	0.0022624	0.029412	0 020381	

NA = Statistical Test Not Applicable

OU7/45BKWCT

Results of Inferential Statistical Tests
Downgradient Subsurface Geologic Materials (70993)
vs Sitewide Background Subsurface Geologic Materials
Colluvium
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Aluminum	0 15016	1	1	0 015481	X
Americium-241	1 00000	1	NA	NA	
Antimony	NA	1	NA	NA	
Arsenic	0 064631	0 096774	0 54972	NA	
Barium	0 054387	1	0 54972	NA	
Beryllium	0 98958	1	1	NA	
Cadmium	0 65983	1	NA	NA	
Calcium	0 60538	1	1	NA	
Cesium-137	0 00016517	1	NA	NA	X
Cesium	0 63816	1	NA	NA	
Chromium	0 47335	1	1	0 54135	
Cobalt	0 76286	1	NA	NA	
Copper	0.29647	1	1	0 18825	
Gross Alpha	0 99742	1	1	1 00000	
Gross Beta	0 85970	1	1	0 90839	
Iron	0 48667	1	1	0 074426	
Lead	0 058060	1	0 11991	0 079216	
Lithium	0.22996	1	NA	NA	
Magnesium	0 42956	1	1	NA	
Manganese	0 096282	1	0 54972	0 0011113	X
Mercury	0 80393	1	NA	NA	
Molybdenum	0 99972	1	NA	NA	
Nickel	0 60544	1	1	0 59078	
Nitrate/Nitrite	0 96634	1	NA	NA	

NA = Statistical Test Not Applicable

OU7/9BKCLT OUT

Results of Inferential Statistical Tests
Downgradient Subsurface Geologic Materials (70993)
vs. Sitewide Background Subsurface Geologic Materials
Colluvium
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Plutonium-239,240	0.5	1	1	NA	
Potassium	0.71361	1	NA	NA	
Radium-226	0.82418	1	1	NA	
Radium-228	0.44767	1	0.52125	0.50246	
Selenium	0.65496	1	NA	NA	
Silicon	0.99848	1	NA	NA	
Silver	0.90854	1	1	NA	
Sodium	0.46125	1	NA	NA	
Strontium-89,90	0.11295	1	1	0.99999	
Strontium	0.42056	1	1	0.46805	
Thallium	NA	1	NA	NA	
Tin	0.84963	1	NA	NA	
Tritium	0.066120	0.10345	0.51533	0.11941	
Uranium-233,234	0.5	1	1	NA	
Uranium-235	0.21337	1	1	NA	
Uranium-238	0.097173	1	0.51533	0.016185	X
Vanadium	0.87204	1	1	0.99374	
Zinc	0.36916	1	1	0.14547	

NA = Statistical Test Not Applicable

OU7/9BKCLT OUT

Results of Inferential Statistical Tests
Downgradient Subsurface Geologic Materials (71093)
vs Sitewide Background Subsurface Geologic Materials
Colluvium
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Aluminum	0.077112	1	0.20050	0.032194	X
Americium-241	1.00000	1	NA	NA	
Antimony	NA	1	NA	NA	
Arsenic	0.10838	1	0.64822	NA	
Barium	0.043673	0.125	0.025306	NA	X
Beryllium	0.99792	1	1	NA	
Cadmium	0.68165	1	NA	NA	
Calcium	0.56787	1	1	NA	
Cesium-137	0.11570	0.10345	NA	NA	
Cesium	0.65845	1	NA	NA	
Chromium	0.22930	1	1	0.17358	
Cobalt	0.14675	1	NA	NA	
Copper	0.24704	1	1	0.19963	
Gross Alpha	0.99742	1	1	0.99386	
Gross Beta	0.98453	1	1	0.99811	
Iron	0.21247	1	0.64822	0.19552	
Lead	0.0026065	1	0.00097330	0.0000050629	X
Lithium	0.21810	1	NA	NA	
Magnesium	0.36621	1	1	NA	
Manganese	0.33455	1	1	0.40729	
Mercury	0.82634	1	NA	NA	
Molybdenum	0.99992	1	NA	NA	
Nickel	0.29401	1	1	0.17432	
Nitrate/Nitrite	0.5	0.10345	NA	NA	

NA = Statistical Test Not Applicable

OU7/10BKCLT OUT

Results of Inferential Statistical Tests
Downgradient Subsurface Geologic Materials (71093)
vs. Sitewide Background Subsurface Geologic Materials
Colluvium
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Plutonium-239,240	0.5	1	1	NA	
Potassium	0.66810	1	NA	NA	
Radium-226	0.91543	1	1	NA	
Radium-228	0.17854	1	0.52125	0.085116	
Selenium	0.67490	1	NA	NA	
Silicon	0.99171	1	NA	NA	
Silver	0.93649	1	1	NA	
Sodium	0.92967	1	NA	NA	
Strontium-89,90	0.078851	1	0.65740	0.82864	
Strontium	0.049208	1	0.20050	0.061564	X
Thallium	NA	1	NA	NA	
Tin	0.88244	1	NA	NA	
Tritium	0.066120	1	0.51533	0.022256	X
Uranium-233,234	0.5	1	NA	NA	
Uranium-235	0.23721	1	1	NA	
Uranium-238	0.11015	1	0.51533	0.086375	
Vanadium	0.26536	1	0.64822	0.27113	
Zinc	0.15253	1	0.64822	0.025674	X

NA = Statistical Test Not Applicable

OU7/10BKCLT OUT

Results of Inferential Statistical Tests
Downgradient Subsurface Geologic Materials (70993)
vs Sitewide Background Subsurface Geologic Materials
Weathered Bedrock
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Aluminum	0 99831	1	1	0 99992	
Americium-241	0 99998	1	NA	NA	
Antimony	NA	1	NA	NA	
Arsenic	0 39475	1	0 81538	0 76433	
Barium	0 32037	0 14286	0 34066	0 10729	
Beryllium	0 99865	1	1	1 00000	
Cadmium	NA	0 4	NA	NA	
Calcium	0 0046225	0 043956	0 043956	0 0087938	X
Cesium-137	0 99999	1	NA	NA	
Cesium	NA	1	NA	NA	
Chromium	0 99865	1	1	0 99999	
Cobalt	0.29756	0 043956	0 043956	NA	X
Copper	0 035930	1	0 34066	0 0033277	X
Gross Alpha	0 99999	1	NA	NA	
Gross Beta	0 99999	1	NA	NA	
Iron	0 72575	0 14286	0 34066	0 57732	
Lead	0 0013499	0 0019980	0 010989	0 00024301	X
Lithium	0 76832	1	1	0 92733	
Magnesium	0.23168	1	0 81538	0 34029	
Manganese	0 87146	0 043956	0 043956	0 32043	
Mercury	0 18555	1	NA	NA	
Molybdenum	0 99872	1	NA	NA	
Nickel	0 89786	0 043956	0 043956	0 36449	X
Nitrate/Nitrite	0 99444	1	NA	NA	

NA = Statistical Test Not Applicable

OU7/9BKWCT OUT

Results of Inferential Statistical Tests
Downgradient Subsurface Geologic Materials (70993)
vs. Sitewide Background Subsurface Geologic Materials
Weathered Bedrock
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Plutonium-239,240	0.5	1	1	NA	
Potassium	0 99292	1	NA	NA	
Radium-226	0.0069515	0.0047619	0.33333	0.010044	X
Radium-228	0 99976	1	NA	NA	
Selenium	0 10030	0 010989	0.010989	NA	X
Silicon	0.5	1	NA	NA	
Silver	0 99879	1	1	NA	
Sodium	0 0099727	1	NA	NA	X
Strontium-89,90	0.32090	1	0.81538	0 85315	
Strontium	0.00023591	0.00019980	0.043956	NA	X
Thallium	NA	1	NA	NA	
Tin	0 99868	1	1	NA	
Tritium	0 99999	1	NA	NA	
Uranium-235	0 99999	1	NA	NA	
Uranium-238	0 99999	1	NA	NA	
Vanadium	0 99687	1	1	0.96471	
Zinc	0.0013499	0.00019980	0.043956	0.0000014980	X

NA = Statistical Test Not Applicable

OU7/9BKWCT OUT

Results of Inferential Statistical Tests
Downgradient Subsurface Geologic Materials (71093)
vs Sitewide Background Subsurface Geologic Materials
Weathered Bedrock
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Aluminum	0 99904	1	1	0 99992	
Americium-241	0 99999	1	NA	NA	
Antimony	NA	1	NA	NA	
Arsenic	0 74194	1	0 81538	0 76433	
Barium	0 033750	0 14286	0 34066	0 10729	X
Beryllium	0 99928	1	1	1 00000	
Cadmium	0 12793	0 4	NA	NA	
Calcium	0 0047290	0 043956	0 043956	0 0087938	X
Cesium-137	1 00000	1	NA	NA	
Chromium	0 99927	1	1	0 99999	
Cobalt	0 035585	0 043956	0 043956	NA	X
Copper	0 012572	1	0 34066	0 0033277	X
Gross Alpha	1 00000	1	NA	NA	
Gross Beta	1 00000	1	NA	NA	
Iron	0 27784	0 14286	0 34066	0 57732	
Lead	0 0010816	0 0019980	0 010989	0 00024301	X
Lithium	0 92154	1	1	0 92733	
Magnesium	0 31868	1	0 81538	0 34029	
Manganese	0 17289	0 043956	0 043956	0.32043	X
Mercury	0 11863	1	NA	NA	
Molybdenum	0 99923	1	NA	NA	
Nickel	0 17267	0 043956	0 043956	0 36449	X
Nitrate/Nitrite	0 99590	1	NA	NA	
Plutonium-239,240	0 5	1	1	NA	

NA = Statistical Test Not Applicable

OU7/10BKWCT OUT

Results of Inferential Statistical Tests
Downgradient Subsurface Geologic Materials (71093)
vs. Sitewide Background Subsurface Geologic Materials
Weathered Bedrock
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Potassium	0 97935	1	NA	NA	
Radium-226	0 0051410	0 0047619	0.33333	0.010044	X
Radium-228	0 99985	1	NA	NA	
Selenium	0 0032008	0 010989	0.010989	NA	X
Silicon	0.5	1	NA	NA	
Silver	0 99940	1	1	NA	
Sodium	0 010973	1	NA	NA	X
Strontium-89,90	0 11888	1	0 81538	0 85315	X
Strontium	0 00016549	0 0019980	0.043956	NA	X
Thallium	0.5	1	NA	NA	
Tin	0 99950	1	1	NA	
Tritium	1 00000	1	NA	NA	
Uranium-235	1 00000	1	NA	NA	
Uranium-238	1 00000	1	NA	NA	
Vanadium	0.93725	1	1	0 96471	
Zinc	0.00073136	0 00019980	0.043956	0.0000014980	X

NA = Statistical Test Not Applicable

OU7/10BKWCT OUT

Results of Inferential Statistical Tests
East Landfill Pond Sediments vs Background Stream Sediments
(Total)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Aluminum	0 019068	1	0 038574	NA	X
Americium-241	0 37645	1	1	NA	
Antimony	0 69412	1	NA	NA	
Arsenic	0 014503	1	0 099006	0 015382	X
Barium	0 0032537	1	0 0071299	NA	X
Beryllium	0 000052600	1	NA	NA	X
Cadmium	0 69472	1	NA	NA	
Calcium	0 041752	1	0 038574	NA	X
Cesium 137	0 068085	1	0 051120	0 049393	X
Cesium	0 56188	1	NA	NA	
Chromium	0 017902	1	0 099006	NA	X
Cobalt	0 13494	1	NA	NA	
Copper	0 032953	1	0 099006	NA	X
Gross Alpha	0 50929	1	1	NA	
Gross Beta	0 94909	1	1	0 99997	
Iron	0 053402	1	0 36821	0 028003	X
Lead	0 029874	1	0 099006	NA	X
Lithium	0 089993	1	NA	NA	
Magnesium	0 038000	1	0 36821	0 042710	X
Manganese	0 42525	1	1	NA	
Mercury	0 5	1	NA	NA	
Molybdenum	0 93408	1	NA	NA	
Nickel	0 010683	1	0 10552	NA	X
Nitrate	1	1	NA	NA	
Nitrate/Nitrite	0 98068	1	NA	NA	
Plutonium-239,240	0 22794	1	0 51226	NA	

NA = Statistical Test Not Applicable

OU7/sdbkgh

Results of Inferential Statistical Tests
East Landfill Pond Sediments vs. Background Stream Sediments
(Total)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Potassium	0 012473	1	NA	NA	X
Radium-228	0.5	1	1	NA	
Selenium	0.021771	1	NA	NA	X
Silicon	0.20083	1	0.42857	0.24814	
Silver	0.46394	1	NA	NA	
Sodium	0.012581	1	NA	NA	X
Strontium-89,90	0.45571	1	1	0.64846	
Strontium	0.011546	1	0.039927	0 012544	X
Thallium	0.5	1	NA	NA	
Tin	0 83149	1	NA	NA	
Tritium	0 5	1	1	NA	
Uranium-233,234	0 84159	1	1	NA	
Uranium-235	0 45760	1	1	NA	
Uranium-238	0.61586	1	1	NA	
Vanadium	0.013486	1	0 10552	0 00012480	X
Zinc	0.018485	1	0.099006	NA	X

NA = Statistical Test Not Applicable

OU7/sdbkgh

Results of Inferential Statistical Tests
Leachate Seep Water (SW097) vs Sitewide Background Seep Water
(Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Aluminum	0 73781	1	NA	NA	
Americium-241	0 54322	0 88187	0 57454	NA	
Antimony	0 34520	1	NA	NA	
Arsenic	0 84016	1	NA	NA	
Barium	5 218E-14	1	NA	NA	X
Beryllium	0 10783	1	NA	NA	
Cadmium	0 35139	1	NA	NA	
Calcium	0 0000000011531	1	0 0000014291	0	X
Cesium	0 5	1	NA	NA	
Cesium-137	0 12165	0 22222	0 77778	NA	
Chromium	0 34540	1	NA	NA	
Cobalt	0.29882	1	NA	NA	
Copper	0 97688	1	NA	NA	
Gross Alpha	0.27825	1	0.27473	0 21455	
Gross Beta	0 010319	1	0 53457	0 037248	X
Iron	2 8662E-11	1	NA	NA	X
Lead	0 5	1	NA	NA	
Lithium	0 000000071160	1	NA	NA	X
Magnesium	5 548E-11	1	NA	NA	X
Manganese	0 00000000011412	1	NA	0 000000011979	X
Mercury	0 98338	1	NA	NA	
Molybdenum	0 63410	1	NA	NA	
Nickel	0 20772	1	NA	NA	
Plutonium-239,240	0 5	1	1	NA	
Potassium	0 0000000021863	1	NA	NA	X

NA = Statistical Test Not Applicable

OU7/seepdiss

Results of Inferential Statistical Tests
Leachate Seep Water (SW097) vs. Sitewide Background Seep Water (Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Radium-226	0.5	1	1	0.38199	
Radium-228	0 15866	0.5	0.5	NA	
Selenium	0.90999	1	NA	NA	
Silicon	0.82220	1	NA	NA	
Silver	0.14644	1	NA	NA	
Sodium	5.9753E-11	5.3513E-14	0 000000000039407	1 7764E-14	X
Strontium	0 0000000025958	0.000037257	NA	NA	X
Strontium-89,90	0 0013926	0 0015608	0.0.098099	0.0013296	X
Thallium	NA	1	NA	NA	
Tin	0 018704	1	NA	NA	X
Tritium	0.5	1	1	NA	
Uranium-233,234	0 5	1	1	NA	
Uranium-235	0.82237	0.54545	0.95666	0.85227	
Uranium-238	0.98185	1	0.98627	0 99327	
Vanadium	0 76689	1	NA	NA	
Zinc	1.4222E-12	1	NA	NA	X

NA = Statistical Test Not Applicable

OU7/seepdiss

Results of Inferential Statistical Tests
Leachate Seep Water (SW097) vs. Sitewide Background Seep Water
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0 05)
Aluminum	0 99335	1	NA	0 99264	
Americium-241	0 61724	1	0 90492	0 91196	
Antimony	0 73747	1	NA	NA	
Arsenic	0 98202	1	NA	NA	
Barium	0 00091711	1	NA	0 96560	X
Beryllium	0 97496	1	NA	NA	
Cadmium	0 87641	1	NA	NA	
Calcium	0 0000059742	1	0 24511	0 0050702	X
Cesium	0 88899	1	NA	NA	
Cesium-137	0 60658	1	0 98723	0 69027	
Chromium	0 82404	1	NA	NA	
Cobalt	0 66503	1	NA	NA	
Copper	0 97739	1	NA	NA	
Cyanide	0 53927	1	NA	NA	
Gross Alpha	0 73444	1	1	0 92171	
Gross Beta	0 00072421	0 00019980	0 043956	0 00025916	X
Iron	0 0000062403	1	0.20772	0 90741	X
Lead	0 98202	1	NA	NA	
Lithium	0 0000037804	1	NA	NA	X
Magnesium	3 5458E-11	1	NA	0 70858	X
Manganese	0 0000073530	1	NA	0 71872	X
Mercury	0 64633	1	NA	NA	
Molybdenum	0 45768	1	NA	NA	
Nickel	0 88880	1	NA	NA	
Nitrate/Nitrite	0 5	1	NA	NA	

NA = Statistical Test Not Applicable

OU7/seeptot

Results of Inferential Statistical Tests
Leachate Seep Water (SW097) vs. Sitewide Background Seep Water (Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Nitrite	0 0021252	0.375	0 047431	NA	X
Plutonium-239,240	0 5	1	1	NA	
Potassium	0 000024585	1	NA	NA	X
Radium-226	0.90958	1	1	NA	
Radium-228	0.5	1	1	NA	
Selenium	0 58883	1	NA	NA	
Silicon	0 011110	0 047101	0 047101	NA	X
Silver	0.26715	1	NA	NA	
Sodium	1 8628E-11	-1 0436E-14	5 9322E-11	1 1102E-16	X
Strontium	0 00037488	1	NA	NA	X
Strontium-89,90	0.000061402	0 010453	0.0024727	NA	X
Sulfide	0 84134	1	NA	NA	
Thallium	0.86892	1	NA	NA	
Tin	0.54793	1	NA	NA	
Tritium	0 000077629	0 18857	0.013186	0.044523	X
Uranium-233,234	0.5	1	NA	NA	
Uranium-235	0 71163	1	1	0 99781	
Uranium-238	0 84749	1	0.87303	NA	
Vanadium	0 92981	1	NA	NA	
Zinc	0 00000000015427	1	NA	NA	X

NA = Statistical Test Not Applicable

OU7/seeptot

Results of Inferential Statistical Tests
East Landfill Pond Water (SW098) vs Sitewide Background Surface Water (Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Aluminum	0 96621	1	NA	NA	
Americium-241	0 97670	1	0 88032	NA	
Antimony	0 00090772	1	NA	NA	X
Arsenic	0 00033223	1	NA	NA	X
Barium	0	1	NA	NA	X
Beryllium	0 96460	1	NA	NA	
Cadmium	0 82110	1	NA	NA	
Calcium	0 00000000010744	1	1 8981E-11	5 092E-12	X
Cesium	0 99946	1	NA	NA	
Cesium-137	0 86114	1	1	NA	
Chromium	0 12957	1	NA	NA	
Cobalt	0 88568	1	NA	NA	
Copper	0 56309	1	NA	NA	
Gross Alpha	0 0051653	1	0 027676	0 0019860	X
Gross Beta	0 000030570	1	0 0000042729	NA	X
Iron	0 99036	1	NA	NA	
Lead	0 41512	1	NA	NA	
Lithium	0	1	NA	NA	X
Magnesium	5 5511E-16	1	NA	0 68733	X
Manganese	0 023962	1	NA	NA	X
Mercury	0 92190	1	NA	NA	
Molybdenum	0 027532	1	NA	NA	X
Nickel	0 0054682	1	NA	NA	X
Plutonium-239,240	0 5	1	1	NA	
Potassium	0	1	NA	NA	X

NA = Statistical Test Not Applicable

OU7/SW098DIS

Results of Inferential Statistical Tests
East Landfill Pond Water (SW098) vs. Sitewide Background Surface Water (Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Radium-226	0 74365	1	1	0 92205	
Radium-228	0.5	1	1	NA	
Selenium	0 94463	1	NA	NA	
Silicon	1 00000	1	NA	NA	
Silver	0 11677	1	NA	NA	
Sodium	2 1094E-15	8 1157E-14	0	0	X
Strontium	0	1	NA	0 95608	X
Strontium-89,90	0 016081	1	0 14927	NA	X
Thallium	0.24413	1	NA	NA	
Tin	0.0092145	1	NA	NA	X
Tritium	0.5	1	1	NA	
Uranium-233,234	0.5	1	NA	NA	
Uranium-235	0 67596	1	0.77157	0 73506	
Uranium-238	0.00000038527	1	0.00000031447	NA	X
Vanadium	0 0042383	1	NA	NA	X
Zinc	0 98708	1	NA	NA	

NA = Statistical Test Not Applicable

OU7/SW098DIS

Results of Inferential Statistical Tests
East Landfill Pond Water (SW098) vs Sitewide Background Surface Water (Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Aluminum	0 99978	1	NA	NA	
Americium-241	0 0084110	0 14876	0.29985	NA	X
Antimony	0 75074	1	NA	NA	
Arsenic	0 0012852	1	NA	NA	X
Barium	3 7859E-14	1	NA	0 98556	
Beryllium	0 79971	1	NA	NA	
Cadmium	0 30106	1	NA	NA	
Calcium	0 00000000070613	1	1.2331E-12	0 000000020630	X
Cesium	0 91605	1	NA	NA	
Cesium-137	0 99180	1	1	0 99992	
Chromium	0 72351	1	NA	NA	
Cobalt	0 91519	1	NA	NA	
Copper	0 31343	1	NA	NA	
Cyanide	0 69539	1	NA	NA	
Gross Alpha	0 46098	1	0 80283	0 024854	X
Gross Beta	0 000034089	1	0 00000068747	NA	X
Iron	0 69842	1	NA	0 99596	
Lead	0 59444	1	NA	NA	
Lithium	0	1	NA	NA	X
Magnesium	1 3101E-14	1	NA	0 72618	X
Manganese	0 0064598	1	NA	0 87002	X
Mercury	0.21646	1	NA	NA	
Molybdenum	0 026871	1	NA	NA	X
Nickel	4 6715E-11	1	NA	NA	X
Nitrate/Nitrite	0 30316	1	NA	NA	

NA = Statistical Test Not Applicable

OU7/sw098bkg

Results of Inferential Statistical Tests
East Landfill Pond Water (SW098) vs. Sitewide Background Surface Water (Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Nitrite	0 77029	1	NA	NA	
Plutonium-239,240	0.5	1	1	NA	
Potassium	0	1	NA	NA	X
Radium-226	0.5	1	1	NA	
Selenium	0 83479	1	NA	NA	
Silicon	0 99999	1	1	NA	
Silver	0.20340	1	NA	NA	
Sodium	2 4425E-15	-3.0864E-14	0	0	X
Strontium	2 7423E-14	1	NA	0 95911	X
Strontium-89,90	0 0072384	1	0.0050270	NA	X
Sulfide	0.84388	1	NA	NA	
Thallium	0 020407	1	NA	NA	X
Tin	0.0016492	1	NA	NA	
Tritium	0 010610	1	0.067423	0.0099277	X
Uranium-233,234	0.5	1	NA	NA	
Uranium-235	0.040019	1	0.033141	NA	X
Uranium-238	0 000047745	0 16667	0.020561	NA	X
Vanadium	0.26504	1	NA	NA	
Zinc	0.57587	1	NA	NA	

NA = Statistical Test Not Applicable

OU7/sw098bkg

Results of Inferential Statistical Tests
Northern Groundwater-Intercept System Discharge (SW099)
vs Sitewide Background Surface Water
(Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0 05)
Aluminum	0 97359	1	NA	NA	
Americium-241	0 95901	1	1	0 93026	
Antimony	0 59348	1	NA	NA	
Arsenic	0.29366	1	NA	NA	
Barium	0 0000000036814	1	NA	NA	X
Beryllium	0 95449	1	NA	NA	
Cadmium	0 96355	1	NA	NA	
Calcium	0 00000000013580	0 0000060728	3 153E-14	NA	X
Cesium-137	0 89989	1	1	NA	
Cesium	0 99871	1	NA	NA	
Chromium	0 86992	1	NA	NA	
Cobalt	0 55128	1	NA	NA	
Copper	0 55837	1	NA	NA	
Gross Alpha	0 050175	1	0.20690	NA	
Gross Beta	0 20312	1	1	NA	
Iron	0 99865	1	NA	NA	
Lead	0 017646	1	NA	NA	X
Lithium	0 0000029956	1	NA	NA	X
Magnesium	3 6953E-12	1	NA	NA	X
Manganese	0 99988	1	NA	NA	
Mercury	0 67758	1	NA	NA	
Molybdenum	0 61466	1	NA	NA	
Nickel	0 33566	1	NA	NA	
Plutonium-239,240	0 5	1	1	NA	
Potassium	0 93259	1	NA	NA	

NA = Statistical Test Not Applicable

OU7/SWBK99D

Results of Inferential Statistical Tests
Northern Groundwater-Intercept System Discharge (SW099)
vs. Sitewide Background Surface Water
(Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Radium-226	0 74365	1	1	0.90660	
Radium-228	0.5	1	1	NA	
Selenium	0 19502	1	NA	NA	
Silicon	1	1	NA	NA	
Silver	0 035772	1	NA	NA	X
Sodium	0 0021923	0 0000064547	0.029650	NA	X
Strontium-89,90	0 035391	1	0.28961	NA	X
Strontium	2 4269E-13	1	NA	NA	X
Thallium	0 95709	1	NA	NA	
Tin	0 99791	1	NA	NA	
Tritium	0 5	1	1	NA	
Uranium-233,234	0.5	1	NA	NA	
Uranium-235	0 099302	1	0.28120	0.055771	
Uranium-238	0 0011516	1	0.005091	NA	X
Vanadium	0 94228	1	NA	NA	
Zinc	0 13327	1	NA	NA	

NA = Statistical Test Not Applicable

OU7/SWBK99D

Results of Inferential Statistical Tests
Northern Groundwater-Intercept System Discharge (SW099)
vs Sitewide Background Surface Water
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0 05)
Aluminum	0 99961	1	NA	NA	
Americium-241	0 083564	0 010069	0 44484	NA	X
Antimony	0 81634	1	NA	NA	
Arsenic	0 85320	1	NA	NA	
Barium	0 0000000073584	1	NA	NA	X
Beryllium	0 80421	1	NA	NA	
Cadmium	0.21382	1	NA	NA	
Calcium	8 5617E-12	0 00012105	3 3307E-16	1 1879E-14	X
Cesium-137	0 89545	1	0 33166	0 15574	
Cesium	0 89022	1	NA	NA	
Chromium	0 95277	1	NA	NA	
Cobalt	0 91465	1	NA	NA	
Copper	0 47843	1	NA	NA	
Cyanide	0 66234	1	NA	NA	
Gross Alpha	0 036055	1	0 038095	0 029398	X
Gross Beta	0.23912	1	1	NA	
Iron	0 99997	1	NA	NA	
Lead	0 69098	1	NA	NA	
Lithium	0 0000000014891	1	NA	NA	X
Magnesium	4 2721E-13	1	NA	NA	X
Manganese	1 00000	1	NA	NA	
Mercury	0 34012	1	NA	NA	
Molybdenum	0 87238	1	NA	NA	
Nickel	0 36322	1	NA	NA	
Nitrate/Nitrite	0 5	1	NA	NA	

NA = Statistical Test Not Applicable

OU7/swbk99t

Results of Inferential Statistical Tests
Northern Groundwater-Intercept System Discharge (SW099)
vs. Sitewide Background Surface Water
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Nitrite	0 73134	1	NA	NA	
Plutonium-239,240	0.5	1	1	NA	
Potassium	0.81649	1	NA	NA	
Radium-226	0.5	1	1	0.87035	
Selenium	0 022275	1	NA	NA	X
Silicon	0 75413	1	1	NA	
Silver	0 88551	1	NA	NA	
Sodium	0 00074847	0 00011541	0.056207	NA	X
Strontium-89,90	0 11454	1	0.25996	NA	
Strontium	5 1081E-12	1	NA	0.30033	X
Sulfide	0 81984	1	NA	NA	
Thallium	0.82366	1	NA	NA	
Tin	0.84559	1	NA	NA	
Tritium	0 095756	1	0 14998	NA	
Uranium-233,234	0.5	1	NA	NA	
Uranium-235	0.0017064	1	0.016807	NA	X
Uranium-238	0 000048270	0.000040840	0.000028458	NA	X
Vanadium	0 96695	1	NA	NA	
Zinc	0 0051162	1	NA	NA	X

NA = Statistical Test Not Applicable

OU7/swbk99t

Results of Inferential Statistical Tests
Southern Groundwater-Intercept System Discharge (SW100)
vs Sitewide Background Surface Water
(Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0 05)
Aluminum	0 86611	1	NA	NA	
Americium-241	0 050852	0 0625	0 39516	0 19217	
Antimony	0 94167	1	NA	NA	
Arsenic	0 010389	1	NA	NA	X
Barium	0 035170	1	NA	NA	X
Beryllium	0 69751	1	NA	NA	
Cadmium	0 93447	1	NA	NA	
Calcium	0 000000051841	0 00000000067697	0 0000000058147	0 000011639	X
Cesium-137	0 84279	1	1	NA	
Cesium	0 99991	1	NA	NA	
Chromium	0 82476	1	NA	NA	
Cobalt	0.21819	1	NA	NA	
Copper	0.22729	1	NA	NA	
Gross Alpha	0 5	1	1	NA	
Gross Beta	0 029709	1	0 36821	NA	X
Iron	0.21090	1	NA	NA	
Lead	0 47720	1	NA	NA	
Lithium	0 000039893	1	NA	NA	X
Magnesium	0 000015675	1	NA	NA	X
Manganese	0 0087105	1	NA	NA	X
Mercury	0 86228	1	NA	NA	
Molybdenum	0 086780	1	NA	NA	
Nickel	0 78554	1	NA	NA	
Plutonium-239,240	0 5	1	1	NA	
Potassium	0 00000000020228	1	NA	NA	X

NA = Statistical Test Not Applicable

OU7/SW100DIS

Results of Inferential Statistical Tests
Southern Groundwater-Intercept System Discharge (SW100)
vs. Sitewide Background Surface Water
(Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Radium-226	0.5	1	1	NA	
Radium-228	0.5	1	1	NA	
Selenium	0.0058170	1	NA	NA	X
Silicon	1	1	NA	NA	
Silver	0.24621	1	NA	NA	
Sodium	0 00000038782	0 000000022649	0 0000080595	0.0000063633	X
Strontium-89,90	0 50830	1	1	NA	
Strontium	0 00000020105	1	NA	NA	X
Thallium	0 98226	1	NA	NA	
Tin	0.98062	1	NA	NA	
Tritium	0.5	1	1	NA	
Uranium-233,234	0.5	1	NA	NA	
Uranium-235	0.27007	1	1	0.86059	
Uranium-238	0 033219	1	0 13577	NA	X
Vanadium	0.42204	1	NA	NA	
Zinc	0 000015898	1	NA	NA	X

NA = Statistical Test Not Applicable

OU7/SW100DIS

Results of Inferential Statistical Tests
Southern Groundwater-Intercept System Discharge (SW100)
vs Sitewide Background Surface Water
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Aluminum	0 92754	1	NA	NA	
Americium-241	0 056630	0 028302	0 50610	NA	X
Antimony	0 77693	1	NA	NA	
Arsenic	0 020422	1	NA	NA	
Barium	0.22733	1	NA	NA	
Beryllium	0 73500	1	NA	NA	
Cadmium	0 63073	1	NA	NA	
Calcium	0 0000028388	0 000088508	0 0000018179	0 00012947	X
Cesium-137	0 85198	1	1	NA	
Cesium	0 83712	1	NA	NA	
Chromium	0 81184	1	NA	NA	
Cobalt	0 74167	1	NA	NA	
Copper	0 098286	1	NA	NA	
Cyanide	0 63989	1	NA	NA	
Gross Alpha	0 066020	1	0.20238	NA	
Gross Beta	0 013136	1	0 041975	NA	X
Iron	0 36910	1	NA	0 42151	
Lead	0 13403	1	NA	NA	
Lithium	0 00069539	1	NA	NA	X
Magnesium	0 000026706	1	NA	NA	X
Manganese	0 45696	1	NA	NA	
Mercury	0 79790	1	NA	NA	
Molybdenum	0 54606	1	NA	NA	
Nickel	0 067105	1	NA	NA	
Nitrate/Nitrite	0 5	1	NA	NA	

NA = Statistical Test Not Applicable

OU7/SW100T

Results of Inferential Statistical Tests
Southern Groundwater-Intercept System Discharge (SW100)
vs. Sitewide Background Surface Water
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Nitrite	0 000064152	1	NA	NA	X
Plutonium-239,240	0.5	1	1	NA	
Potassium	0 0000019088	1	NA	NA	X
Radium-226	0.5	1	1	NA	
Selenium	0 000053070	1	NA	NA	X
Silicon	0 98619	1	1	NA	
Silver	0 73751	1	NA	NA	
Sodium	0.000025157	0 000085189	0.00090759	0 00053828	X
Strontium-89,90	0 91580	1	1	NA	
Strontium	0 00046710	1	NA	NA	X
Sulfide	0 73026	1	NA	NA	
Thallium	0.65943	1	NA	NA	
Tin	0 78411	1	NA	NA	
Tritium	0 048456	1	0 055544	NA	X
Uranium-233,234	0.5	1	1	NA	
Uranium-235	0 090137	1	0.37895	NA	
Uranium-238	0 017996	1	0 041478	NA	
Vanadium	0.53202	1	NA	NA	
Zinc	0 0023459	1	NA	NA	X

NA = Statistical Test Not Applicable

OU7/SW100T

Results of Inferential Statistical Tests
All UHSU Groundwater vs Sitewide Background UHSU Groundwater
(Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Aluminum	0 12894	0 30508	NA	NA	
Americium-241	0 94628	0 89662	0 99023	0 85353	
Antimony	0.20577	0 095258	NA	NA	
Arsenic	0 00035839	1	NA	NA	X
Barium	0 00044385	-2 0717E-13	NA	2 4665E-11	X
Beryllium	0 91594	1	NA	NA	
Cadmium	0 91149	0 31804	NA	NA	
Calcium	0 080776	0 0000024448	0 0000019590	0 0000057094	X
Cesium-137	0 99525	1	0 88564	0 98786	
[illegible]um	0 98909	1	NA	NA	
Chromium	0.25221	0 30552	NA	NA	
Cobalt	0 00084581	0 57491	NA	NA	X
Copper	0 0000077654	0 0086172	NA	NA	X
Gross Alpha	0.34901	1	0 48746	0 88735	
Gross Beta	0 014930	1	0 0014936	0 19617	X
Iron	0 0000058084	0 00000000025098	NA	NA	X
Lead	0 80165	1	NA	NA	
Lithium	0 062074	1	NA	NA	
Magnesium	0 000090935	0 0000050804	6 9587E-12	0 00000000042486	X
Manganese	0	-2 4025E-13	NA	NA	X
Mercury	0.21944	1	NA	NA	
Molybdenum	0 35350	1	NA	NA	
Nickel	0 00000000040188	0 000031017	NA	NA	X
Plutonium-239,240	1	1	1	NA	
Potassium	1 7042E-12	1	NA	NA	X

NA = Statistical Test Not Applicable

OU7/gwbkgd

Results of Inferential Statistical Tests
All UHSU Groundwater vs. Sitewide Background UHSU Groundwater
(Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Radium-226	0 000000013877	0 000000011414	0.000032113	0.0000000020645	X
Radium-228	0 99577	0.61111	0 99045	0.99950	
Selenium	0 72489	1	NA	NA	
Silicon	1	1	NA	NA	
Silver	0 80470	1	NA	NA	
Sodium	0 0000052518	0.00000074646	0.0026152	0.0000026897	X
Strontium-89,90	0 034294	0.53991	0.0070253	0 043560	X
Strontium	0 00057998	0.55276	NA	0.049544	X
Thallium	0 97488	1	NA	NA	
Tin	0 84536	1	NA	NA	
Tritium	0.47606	1	0 90323	NA	
Uranium-233,234	0.5	1	NA	NA	
Uranium-235	0 16130	1	0.22461	0.89135	
Uranium-238	0.87320	1	0.70235	0 94909	
Vanadium	0 96151	1	NA	NA	
Zinc	5 0698E-11	0.00011293	2.3427E-10	NA	X

NA = Statistical Test Not Applicable

OU7/gwbkgd

Results of Inferential Statistical Tests
All UHSU Groundwater vs Sitewide Background UHSU Groundwater
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0 05)
Aluminum	0 0000000012111	0 0025573	0 000079428	0 00020549	X
Americium-241	0 084992	0 011692	0.25097	0 025950	X
Antimony	0 049108	1	NA	NA	X
Arsenic	0 0000057476	0 00025135	NA	NA	X
Barium	3 5527E-15	0 000083708	1 1102E-16	0 000000068355	X
Beryllium	0 0010182	0 0049144	NA	NA	X
Cadmium	0 18476	0 27242	NA	NA	
Calcium	0 091286	0 000020861	0 000079428	0 000054143	X
Cesium-137	0 39339	1	0 57609	0 52147	
Cesium	0 61948	1	NA	NA	
Chromium	0 00000000016482	1	0 000000010208	NA	X
Cobalt	0 00036435	0 010043	NA	NA	X
Copper	2 8006E-11	0 00000065261	NA	NA	X
Cyanide	0 15155	1	NA	NA	
Gross Alpha	0 99980	1	1	0 99317	
Gross Beta	0 99190	1	0 98380	0 94831	
Iron	1 7764E-15	0 00065728	4 8801E-11	0 0000023228	X
Lead	0 00000062221	0 00046393	0 000014515	NA	X
Lithium	0 00023233	1	NA	NA	X
Magnesium	0 000030860	0 000041854	0 000000080487	0 000000028906	X
Manganese	1 7764E-15	0 000000070650	4 5741E-14	0 0000000082322	X
Mercury	0 00022392	0 000043835	NA	NA	X
Molybdenum	0 42275	1	NA	NA	
Nickel	4 7347E-11	0.27743	NA	NA	X
Nitrate/Nitrite	5 1603E-13	1	NA	NA	X

NA = Statistical Test Not Applicable

OU7/GWBKGT

Results of Inferential Statistical Tests
All UHSU Groundwater vs. Sitewide Background UHSU Groundwater
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Nitrite	0.071143	1	NA	NA	
Plutonium-239,240	0.5	1	1	NA	
Potassium	0	0.0000025338	NA	NA	X
Radium-226	0.036874	0.26923	0.34266	0.034120	X
Selenium	0.73362	0.035379	NA	NA	X
Silicon	0.0000069494	0.037842	0.00059649	0.000055474	X
Silver	0.00085266	0.0013805	NA	NA	X
Sodium	0.0026339	0.00063658	0.033161	0.0017567	X
Strontium-89,90	0.31995	1	0.38291	0.023131	X
Strontium	0.00069448	0.0094774	0.00015752	0.0000033661	X
Thallium	0.21700	1	NA	NA	
Tin	0.062207	0.26471	NA	NA	
Tritium	0.62417	1	0.99938	0.79417	
Uranium-233,234	0.5	1	NA	NA	
Uranium-235	0.60405	1	0.61986	0.83908	
Uranium-238	0.48244	1	0.51030	0.80826	
Vanadium	0.00000000040032	0.036831	NA	NA	X
Zinc	6.1685E-11	0.00015457	0.0000000034297	NA	X

NA = Statistical Test Not Applicable

OU7/GWBKGT

Results of Inferential Statistical Tests
Landfill UHSU Groundwater vs Sitewide Background UHSU Groundwater
(Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Aluminum	0 38042	1	NA	NA	
Americium-241	0 92878	0 88889	0 99316	0 82852	
Antimony	0 070874	0 11394	NA	NA	
Arsenic	0 0000000031191	1	NA	NA	X
Barium	0	-3.2618E-13	NA	1 1102E-16	X
Beryllium	0 91599	1	NA	NA	
Cadmium	0 53655	0 11986	NA	NA	
Calcium	0 18612	0 0000000034929	0 00000010077	0 00025187	X
Cesium 137	0 99574	1	0 94707	0 43768	
Cesium	0 77360	1	NA	NA	
Chromium	0 66671	1	NA	NA	
Cobalt	0 00000000023280	0 35620	NA	NA	X
Copper	0 81010	0 11223	NA	NA	
Gross Alpha	0.22187	1	0 43518	0 95136	
Gross Beta	0 0013989	1	0 000097381	0 054269	X
Iron	3 89858E 15	-2 871E-13	9 992E-16	NA	X
Lead	0 77178	1	NA	NA	
Lithium	0 42214	1	NA	NA	
Magnesium	0 024246	0 0000013818	0 0000017532	0 00010493	X
Manganese	0	8 9928E-14	0	NA	X
Mercury	0 11723	1	NA	NA	
Molybdenum	0 071891	1	NA	NA	
Nickel	1 0048E-12	0 0016765	NA	NA	X
Plutonium-239,240	1	1	1	NA	
Potassium	0 00000011598	1	NA	NA	X

NA = Statistical Test Not Applicable

OU7/GWBKLUHD

Results of Inferential Statistical Tests
Landfill UHSU Groundwater vs. Sitewide Background UHSU Groundwater
(Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Radium-226	0.000000017434	3 9867E-12	0.0000035507	0.0000000071873	X
Radium-228	0 98749	0.6	0 95604	0 98952	
Selenium	1 00000	1	NA	NA	
Silicon	1	1	NA	NA	
Silver	0 74482	1	NA	NA	
Sodium	0 00095744	0.0039140	0.65081	0.015549	X
Strontium-89 90	0.020585	1	0.000079202	0.015158	X
Strontium	0.086082	1	NA	0 01490	
Thallium	0 85856	1	NA	NA	
Tin	0.26619	1	NA	NA	
Tritium	0.38146	1	1	NA	
Uranium-233,234	0.5	1	1	NA	
Uranium-235	0.29902	1	0.25879	0 96702	
Uranium-238	0 96943	1	0.97565	0.99081	
Vanadium	0 59247	1	NA	NA	
Zinc	0 0000023804	0 11111	NA	NA	X

NA = Statistical Test Not Applicable

OU7/GWBKLUHD

Results of Inferential Statistical Tests
Landfill UHSU Groundwater vs Sitewide Background UHSU Groundwater
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Aluminum	0 000000029649	0 10179	0 00063738	0 0025829	X
Americium-241	0 0092164	0 00028497	0 00034139	0 0018752	X
Antimony	0 092817	1	NA	NA	
Arsenic	0 000000012812	0 000012138	NA	NA	X
Barium	0	0 000085402	0	0 00000000067621	X
Beryllium	0 023463	0 32189	NA	NA	X
Cadmium	0 77911	1	NA	NA	
Calcium	0 075043	0 000000049240	0 000011757	0 00025277	X
Cesium 137	0 071238	1	0 19951	0 18609	
Cesium	0 5	1	NA	NA	
Chromium	0 000015384	1	0 0000093398	NA	X
Cobalt	0 000085172	0 10267	NA	NA	X
Copper	0 000055366	0 10267	NA	NA	X
Cyanide	0 098752	1	NA	NA	
Gross Alpha	0 96130	1	1	0 97182	
Gross Beta	0 89672	1	1	0 94348	
Iron	0	0 0030818	0 000000011946	0 0000029729	X
Lead	0 00023639	0 011691	0 0016133	NA	X
Lithium	0 017501	1	NA	NA	X
Magnesium	0 0074286	0 00000061849	0 000011757	0 000073873	X
Manganese	0	1 8426E-11	0	0 00000039193	X
Mercury	0 0096964	0 00096683	NA	NA	X
Molybdenum	0.24148	1	NA	NA	
Nickel	0 00000021210	1	NA	NA	X
Nitrate/Nitrite	0 48737	1	NA	NA	

NA = Statistical Test Not Applicable

OU7/gwbkluht

Results of Inferential Statistical Tests
Landfill UHSU Groundwater vs. Sitewide Background UHSU Groundwater
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Nitrite	0.00149461	1	NA	NA	X
Plutonium-239,240	0.5	1	1	NA	
Potassium	9 9791E-12	0.0000021551	NA	NA	X
Radium-226	0 047790	0.25	0.46429	0 16870	X
Selenium	0 99834	1	NA	NA	
Silicon	0 000014014	0.38571	0.021586	0.0056568	X
Silver	0.010811	0 10356	NA	NA	X
Sodium	0.0016273	0 0030818	0.19627	0.0030011	X
Strontium-89,90	0.31063	1	0.44608	0,17942	
Strontium	0 012024	0.00085569	0.00093599	0.00056084	X
Thallium	0.5	1	NA	NA	
Tin	0.46446	1	NA	NA	
Tritium	0.017086	1	0.38907	0 65433	X
Uranium-233,234	0.5	1	NA	NA	
Uranium-235	0 96720	1	0.92601	0 99590	
Uranium-238	0 82613	1	0.93514	0.69988	
Vanadium	0 00000032568	1	NA	NA	X
Zinc	0 000011932	0.031148	0.00082799	NA	X

NA = Statistical Test Not Applicable

OU7/gwbkluht

Results of Inferential Statistical Tests
Downgradient UHSU Groundwater vs Sitewide Background UHSU Groundwater (Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Aluminum	0 026057	1	NA	NA	X
Americium-241	0 67264	1	1	NA	
Antimony	0.26064	0 12375	NA	NA	
Arsenic	0 58075	1	NA	NA	
Barium	1	1	NA	NA	
Beryllium	0 59793	1	NA	NA	
Cadmium	0 82352	1	NA	NA	
Calcium	0	0 013996	0	1 3323E-15	X
Cesium-137	0 31826	1	0 38676	0 46290	
Cesium	0 95706	1	NA	NA	
Chromium	0.31826	0 12252	NA	NA	
Cobalt	0 67916	1	NA	NA	
Copper	0 51169	1	NA	NA	
Gross Alpha	0 00061702	1	0 16189	NA	X
Gross Beta	0 000045536	1	0 000040417	NA	X
Iron	0 69547	1	NA	NA	
Lead	0 91740	1	NA	NA	
Lithium	2.2204E-16	1	NA	NA	X
Magnesium	0	0 0000021419	0	1 80973-14	X
Manganese	0 0013495	1	NA	NA	X
Mercury	0 14273	1	NA	NA	
Molybdenum	0.24795	1	NA	NA	
Nickel	0 0022320	0 016228	NA	NA	X
Plutonium-239,240	0 5	1	1	NA	
Potassium	1 5765E-14	1	NA	NA	X

NA = Statistical Test Not Applicable

OU7/GWBKDUHD

Results of Inferential Statistical Tests
Downgradient UHSU Groundwater vs. Sitewide Background UHSU Groundwater
(Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Radium-226	0 00086672	0 0012869	0.0000070433	0 00031065	X
Radium-228	0 93319	1	1	NA	
Selenium	0.000038210	1	NA	NA	X
Silicon	1	1	NA	NA	
Silver	0.34924	1	NA	NA	
Sodium	0	1 0469E-13	0	0.00000000024963	X
Strontium-89,90	0.25954	0 057692	0.069181	NA	
Strontium	0	1	0	2.1094E-15	X
Thallium	0 74361	1	NA	NA	
Tin	0.24366	1	NA	NA	
Tritium	0.5	1	1	NA	
Uranium-233,234	0.5	1	NA	NA	
Uranium-235	0 000048735	1	0.0010559	0.27295	X
Uranium-238	0.0000020125	1	0.029395	0.38882	X
Vanadium	0 023790	1	NA	NA	X
Zinc	0 019858	1	NA	NA	X

NA = Statistical Test Not Applicable

OU7/GWBKDUHD

Results of Inferential Statistical Tests
Downgradient UHSU Groundwater vs Sitewide Background UHSU Groundwater
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0 05)
Aluminum	0 89438	1	1	NA	
Americium-241	0 79683	1	0 65236	0 85957	
Antimony	0 026864	1	NA	NA	X
Arsenic	0 067613	1	NA	NA	
Barium	0 99998	1	NA	NA	
Beryllium	0 81507	1	NA	NA	
Cadmium	0 72433	1	NA	NA	
Calcium	0 000000012955	1	0 0000000099542	NA	X
Cesium-137	0 80660	1	0 63803	NA	
Cesium	0 5	1	NA	NA	
Chromium	0.34079	1	NA	NA	
Cobalt	0 75956	1	NA	NA	
Copper	0 77311	1	NA	NA	
Cyanide	0 68426	1	NA	NA	
Gross Alpha	0 95168	1	1	NA	
Gross Beta	0 78661	1	1	NA	
Lead	0 99150	1	NA	NA	
Lithium	0 00000000028271	1	NA	NA	X
Magnesium	0 000000046701	1	0 00000034408	NA	X
Manganese	0 85085	1	1	NA	
Mercury	0 71863	1	NA	NA	
Molybdenum	0 47676	1	NA	NA	
Nickel	0 69649	1	NA	NA	
Nitrate/Nitrite	0 0000016376	1	NA	NA	X
Plutonium-239 240	0 5	1	1	NA	

NA = Statistical Test Not Applicable

OU7/GWBKDUHT

Results of Inferential Statistical Tests
Downgradient UHSU Groundwater vs. Sitewide Background UHSU Groundwater
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Potassium	0.000000037714	1	NA	NA	X
Radium-226	0.20092	1	0 46429	0.21028	
Selenium	0 00082587	0.0000012255	NA	NA	X
Silicon	0.99987	1	1	NA	
Silver	0.37510	1	NA	NA	
Sodium	0 00000053036	0.00000068952	0.0000019822	NA	X
Strontium-89,90	0.33999	1	0 49947	0 0069390	X
Strontium	0 000000033767	0.071429	0.0000017105	NA	X
Thallium	0 67415	1	NA	NA	
Tin	0 69929	1	NA	NA	
Tritium	0 82834	1	0 99955	0.86311	
Uranium-233,234	0.5	1	NA	NA	
Uranium-235	0 018439	1	0.18025	0 053317	X
Uranium-238	0 019648	1	0.056001	0.024563	X
Vanadium	0.10315	1	NA	NA	
Zinc	0 80765	1	0.94232	NA	

NA = Statistical Test Not Applicable

OU7/GWBKDUHT

Results of Inferential Statistical Tests
Upgradient LHSU Groundwater vs Sitewide Background LHSU Groundwater
(Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0 05)
Aluminum	0 17466	1	NA	NA	
Americium-241	1	1	NA	NA	
Antimony	0 88865	1	NA	NA	
Arsenic	0 77336	0 13169	NA	NA	
Barium	0 071065	1	NA	0 034572	X
Beryllium	NA	1	NA	NA	
Cadmium	0 33245	1	NA	NA	
Calcium	0 010024	1	0 84097	0 76954	X
Cesium	0 44169	1	NA	NA	
Cesium-137	0 32171	0 66667	0 93333	0 48041	
Chromium	0 92402	1	NA	NA	
Cobalt	0 20972	1	NA	NA	
Copper	0 10656	0 35211	NA	NA	
Gross Alpha	0 00038809	1	0 016863	NA	X
Gross Beta	0 050510	1	0 49281	NA	
Iron	0.27546	1	NA	NA	
Lead	0 68325	1	NA	NA	
Lithium	0 99959	1	NA	1 00000	
Magnesium	0 0016571	1	0 84097	0 42279	X
Manganese	0 00000032996	0 0000052610	0 000066031	0 000032323	X
Mercury	0 92195	1	NA	NA	
Molybdenum	0 031475	0 35211	NA	NA	X
Nickel	0 043301	1	NA	NA	X
Potassium	0 93227	1	NA	0 94471	
Radium-226	0 96986	1	1	NA	
Selenium	0 60192	1	NA	NA	

NA = Statistical Test Not Applicable

OU7/gwbkuhld

Results of Inferential Statistical Tests
Upgradient LHSU Groundwater vs. Sitewide Background LHSU Groundwater
(Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Silicon	0 99993	1	NA	NA	
Silver	0.37342	1	NA	NA	
Sodium	1	1	1	1 00000	
Strontium-89,90	0 42256	1	0 96298	0 16945	
Strontium	0.96091	1	0 99925	0 99776	
Thallium	NA	1	NA	NA	
Tin	0 85101	1	NA	NA	
Tritium	0.37480	1	1	NA	
Uranium-233,234	0 5	1	NA	NA	
Uranium-235	0 015138	0.038630	0.051217	0.017247	X
Uranium-238	0 00017409	1	0 061492	0 062593	X
Vanadium	0 67622	1	NA	NA	
Zinc	0.62748	1	NA	NA	

NA = Statistical Test Not Applicable

OU7/gwbkuhld

Results of Inferential Statistical Tests
Upgradient LHSU Groundwater vs Sitewide Background LHSU Groundwater
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0 05)
Aluminum	0 000031232	0 0030450	0 018956	NA	X
Americium-241	0 50716	1	0 80674	0 87195	
Antimony	0 43165	1	NA	NA	
Arsenic	0 40669	0 18659	NA	NA	
Barium	0 0093523	1	0 045679	NA	X
Beryllium	0 17231	1	NA	NA	
Cadmium	0 48745	1	NA	NA	
Calcium	0 0066709	1	0 68823	NA	X
Cesium-137	0 25673	1	0 79213	0 038994	X
Cesium	NA	1	NA	NA	
Chromium	0 0018920	1	0 094671	NA	X
Cobalt	0 35940	1	NA	NA	
Copper	0 041296	1	0.28687	NA	X
Gross Alpha	0 93319	1	1	NA	
Gross Beta	0 93319	1	1	NA	
Iron	0 000098935	0 0089009	0 094671	NA	X
Lead	0 00066237	0 024795	0 094671	NA	X
Lithium	0 99668	1	NA	NA	
Magnesium	0 0029811	0 41860	0 83143	NA	X
Manganese	0 00052743	1	0 094671	0 00036552	X
Mercury	0 018308	0 066121	NA	NA	X
Molybdenum	0 011649	1	NA	NA	X
Nickel	0 10903	1	NA	NA	
Nitrate/Nitrite	0 86126	1	NA	NA	
Nitrite	0 81844	1	NA	NA	

NA = Statistical Test Not Applicable

OU7/gwbkulht

Results of Inferential Statistical Tests
Upgradient LHSU Groundwater vs. Sitewide Background LHSU Groundwater
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Plutonium-239,240	0 5	1	1	NA	
Potassium	0 014892	0 024795	0.57517	NA	X
Radium-226	0.67264	1	1	NA	
Radium-228	0 97725	1	NA	NA	
Selenium	0.24057	1	NA	NA	
Silicon	0.0018979	0 036782	0.13640	NA	X
Silver	0.67723	1	NA	NA	
Sodium	1.0000	1	1	NA	
Strontium-89,90	0.32171	0.33333	0.6	0.34398	
Strontium	0 75081	1	0.83143	NA	
Thallium	0.28219	1	NA	NA	
Tin	0 46633	1	NA	NA	
Tritium	0.32499	1	0.41249	0.99986	
Uranium-233,234	0.5	1	1	NA	
Uranium-235	0.5	1	1	NA	
Uranium-238	0.5	1	1	NA	
Vanadium	0.0016418	1	NA	NA	X
Zinc	0 17103	1	0.57517	0.071638	

NA = Statistical Test Not Applicable

OU7/gwbkulht

Results of Inferential Statistical Tests
Downgradient LHSU Groundwater vs Sitewide Background LHSU Groundwater
(Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Aluminum	0 019072	0.22951	NA	NA	X
Americium-241	1	1	NA	NA	
Antimony	0 074350	0.23729	NA	NA	
Arsenic	0 73876	1	NA	NA	
Barium	0 0000000040204	5.2232E-11	NA	0 0000024043	X
Beryllium	0 030601	1	NA	NA	X
Cadmium	0 042087	0.24138	NA	NA	X
Calcium	0 00000014696	1 6761E-12	1 6851E-12	NA	X
Cesium-137	0 5	1	1	NA	
Cesium	0 34996	1	NA	NA	
Chromium	0 0000034447	0 010637	NA	NA	X
Cobalt	0 012944	1	NA	NA	X
Copper	0 00048172	1	NA	NA	X
Gross Alpha	0 0020847	1	0 015344	0 00059775	X
Gross Beta	0 00048323	0 00033038	0 0054623	0 0016860	X
Iron	0 18712	0 22581	NA	NA	
Lead	0 30742	1	NA	NA	
Lithium	0 000049582	0 049727	NA	NA	X
Magnesium	0 0047090	0 0000069785	0 00066793	NA	X
Manganese	0 017315	0 000048850	0 0057371	NA	X
Mercury	0 86144	1	NA	NA	
Molybdenum	0 00028198	1	NA	NA	X
Nickel	0 00038957	0 049727	NA	NA	X
Potassium	0 00000016114	4.2118E-11	0 00000000052743	NA	X
Radium-226	0 74751	0 75	0 96429	0 77981	

NA = Statistical Test Not Applicable

OU7/GWBKDLHD

Results of Inferential Statistical Tests
Downgradient LHSU Groundwater vs. Sitewide Background LHSU Groundwater
(Dissolved)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Radium-228	0 95837	1	NA	NA	
Selenium	0.039728	0 071373	NA	NA	X
Silicon	1 00000	1	NA	NA	
Silver	0.0030963	1	NA	NA	X
Sodium	0 0000020616	0.0017944	0 0000021338	NA	X
Strontium-89,90	0 44306	1	0 51533	0.081293	
Strontium	0 00000018418	1.6761E-12	1.6851E-12	NA	X
Thallium	0 030601	1	NA	NA	X
Tin	0.021797	1	NA	NA	X
Tritium	0 67209	1	1	0.61081	
Uranium-233,234	0.5	1	NA	NA	
Uranium-235	0 65151	1	0.49189	0 76442	
Uranium-238	0 020517	1	0.22308	0.38093	X
Vanadium	0 050533	1	NA	NA	
Zinc	0 10832	0.22581	NA	NA	

NA = Statistical Test Not Applicable

OU7/GWBKDLHD

Results of Inferential Statistical Tests
Downgradient LHSU Groundwater vs Sitewide Background LHSU Groundwater
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0 05)
Aluminum	0.27076	1	1	NA	
Americium-241	0 58676	1	1	0.25199	
Antimony	0 16190	1	NA	NA	
Arsenic	0 5	1	NA	NA	
Barium	0 043706	1	NA	NA	X
Beryllium	0 57926	1	NA	NA	
Cadmium	0 57674	1	NA	NA	
Calcium	0 047734	0 038462	0.23077	NA	X
Cesium-137	0 077272	1	0 21429	NA	
Cesium	NA	1	NA	NA	
Chromium	0 014711	1	NA	NA	X
Cobalt	0 57366	1	NA	NA	
Copper	0 32580	1	NA	NA	
Cyanide	0 5	1	NA	NA	
Gross Alpha	0 5	1	1	NA	
Gross Beta	0 5	1	1	NA	
Iron	0 36877	1	1	NA	
Lead	0 30030	1	1	NA	
Lithium	0 17622	1	NA	NA	
Magnesium	0 038578	0 038462	0.23077	NA	X
Manganese	0 19266	1	1	NA	
Mercury	NA	1	NA	NA	
Molybdenum	0 057571	1	NA	NA	
Nickel	0 00092843	1	NA	NA	X
Nitrate/Nitrite	0 16033	1	NA	NA	

NA = Statistical Test Not Applicable

OU7/gwbkdlht

Results of Inferential Statistical Tests
Downgradient LHSU Groundwater vs. Sitewide Background LHSU Groundwater
(Totals)
P-Values

Analyte	Gehan	Slippage	Quantile	T-test	PCOC (<0.05)
Nitrite	0.69824	1	NA	NA	
Plutonium-239,240	0.5	1	1	NA	
Potassium	0 050706	1	0.23077	NA	
Radium-226	0.089856	0.25	0.25	NA	
Selenium	0 00031661	1	NA	NA	X
Silicon	0 5	1	1	NA	
Silver	0 58087	1	NA	NA	
Sodium	0 047790	0.038462	0.23077	NA	X
Strontium-89,90	0 5	1	1	NA	
Strontium	0 047790	0.038462	0.23077	NA	X
Thallium	0 5	1	NA	NA	
Tin	0.5	1	NA	NA	
Tritium	0.32499	1	0.72384	NA	
Uranium-233,234	0.5	1	NA	NA	
Uranium-235	0 078650	0.2	0.2	NA	
Uranium-238	0.11034	0.33333	0.33333	NA	
Vanadium	0.27063	1	NA	NA	
Zinc	0.52679	1	1	NA	

NA = Statistical Test Not Applicable

OU7/gwbkdlht

Appendix N

OU 7 Analytical Data

OU 7 ANALYTICAL DATA

Analytical data for the Operable Unit (OU) No 7 Phase I Resource Recovery and Conservation Act (RCRA) facility investigation/remedial investigation (RFI/RI) are included on one 3½-inch disk The files are self-extracting, compressed, text files. To "decompress" the data, copy the files to a hard drive and type the file name followed by a Return

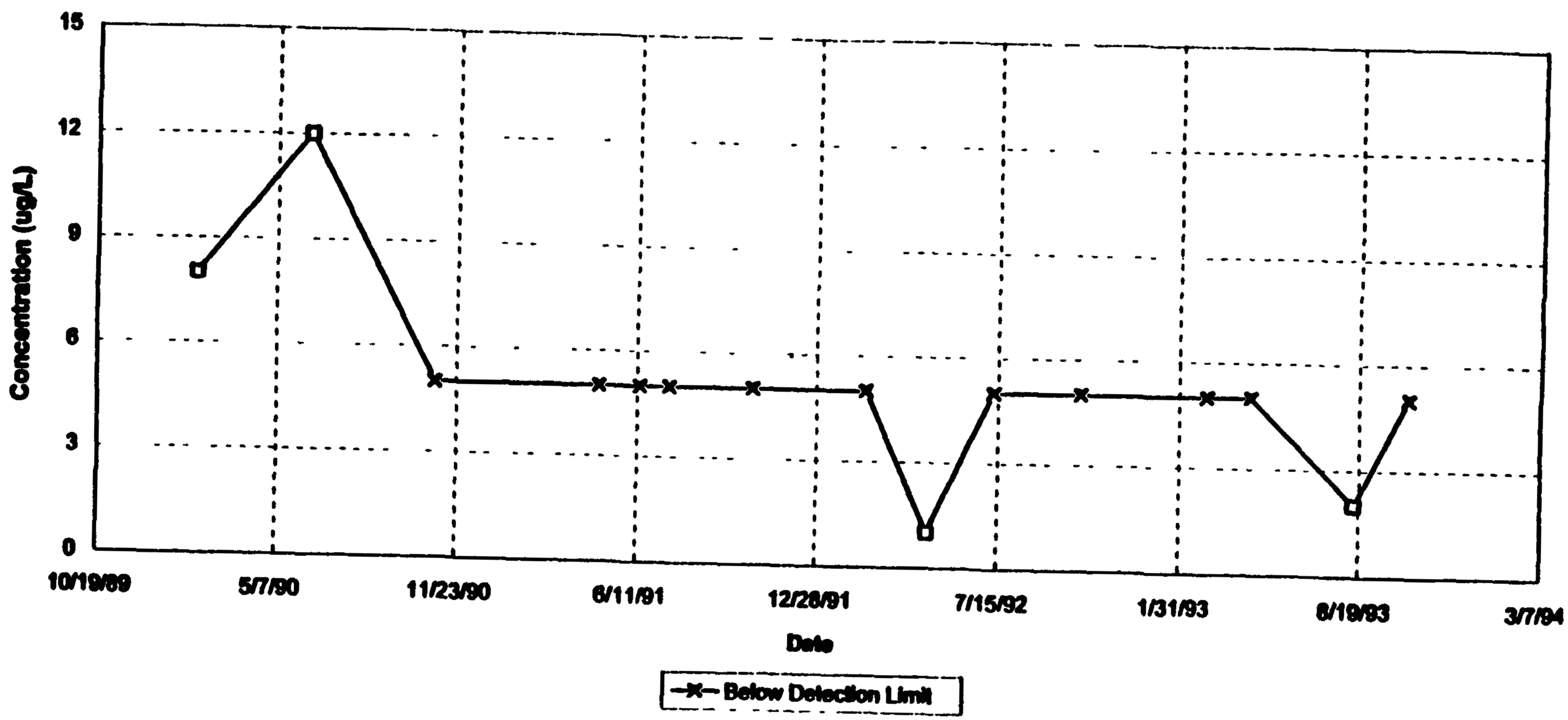
The analytical data used in statistical tests are from all samples collected within the OU 7 boundaries between January 1990 and December 1993 Quality control (QC) sample and RCRA Appendix IX sample analytical data are from the Phase I RFI/RI only. The results, detection limits, and units reflect the internally consistent values contained in the working database The names and contents of the files are

BH_DATA.EXE	Subsurface geologic materials data
GW_DATA.EXE	Groundwater data
SD_DATA EXE	East Landfill Pond sediment data
SS_DATA.EXE	Surface-soil data
SW_DATA.EXE	Surface-water data
QC_DATA EXE	QC sample data
APX9DATA.EXE	RCRA Appendix IX data

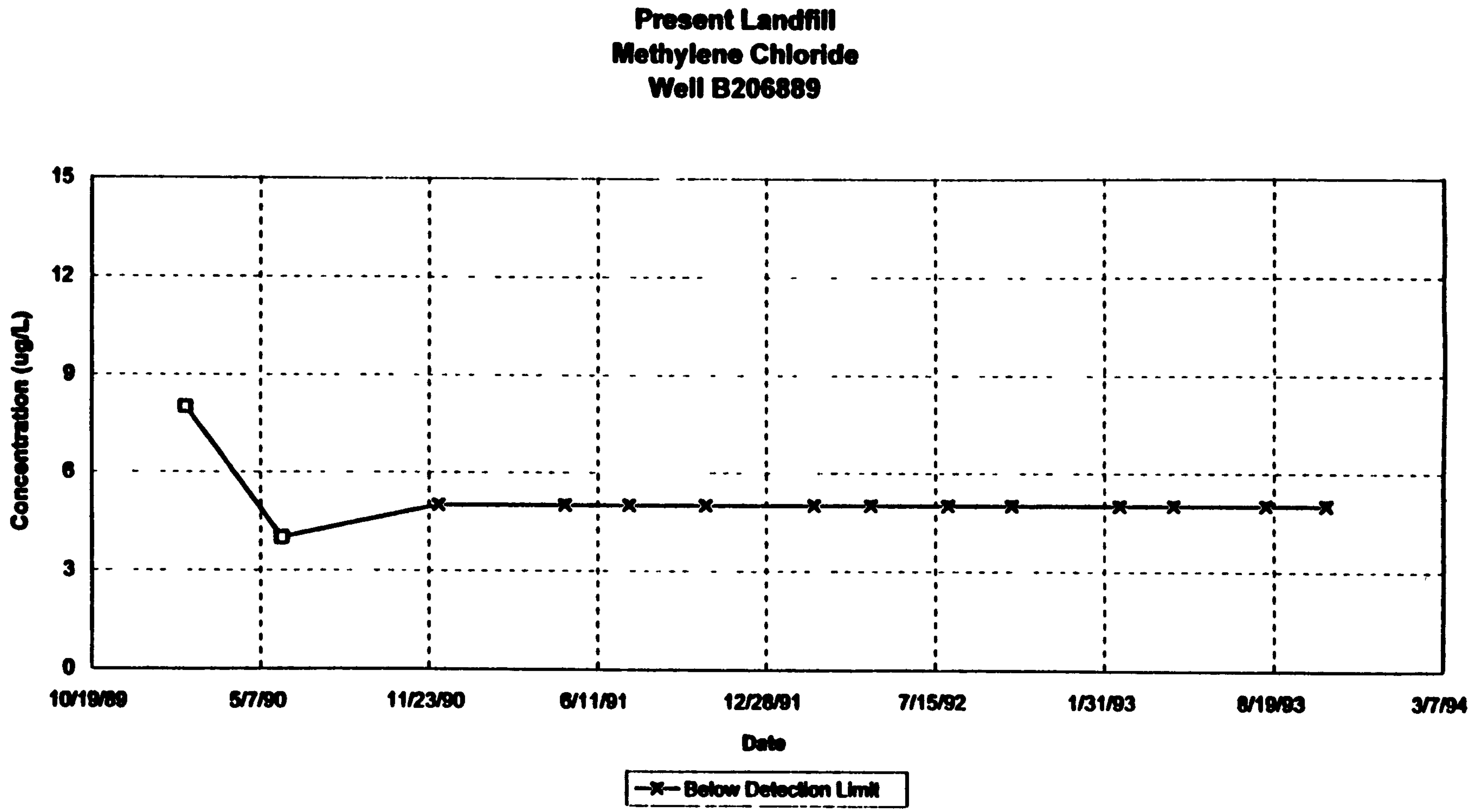
Appendix O

Time-Series Plots

Present Landfill
Methylene Chloride
Well B207089

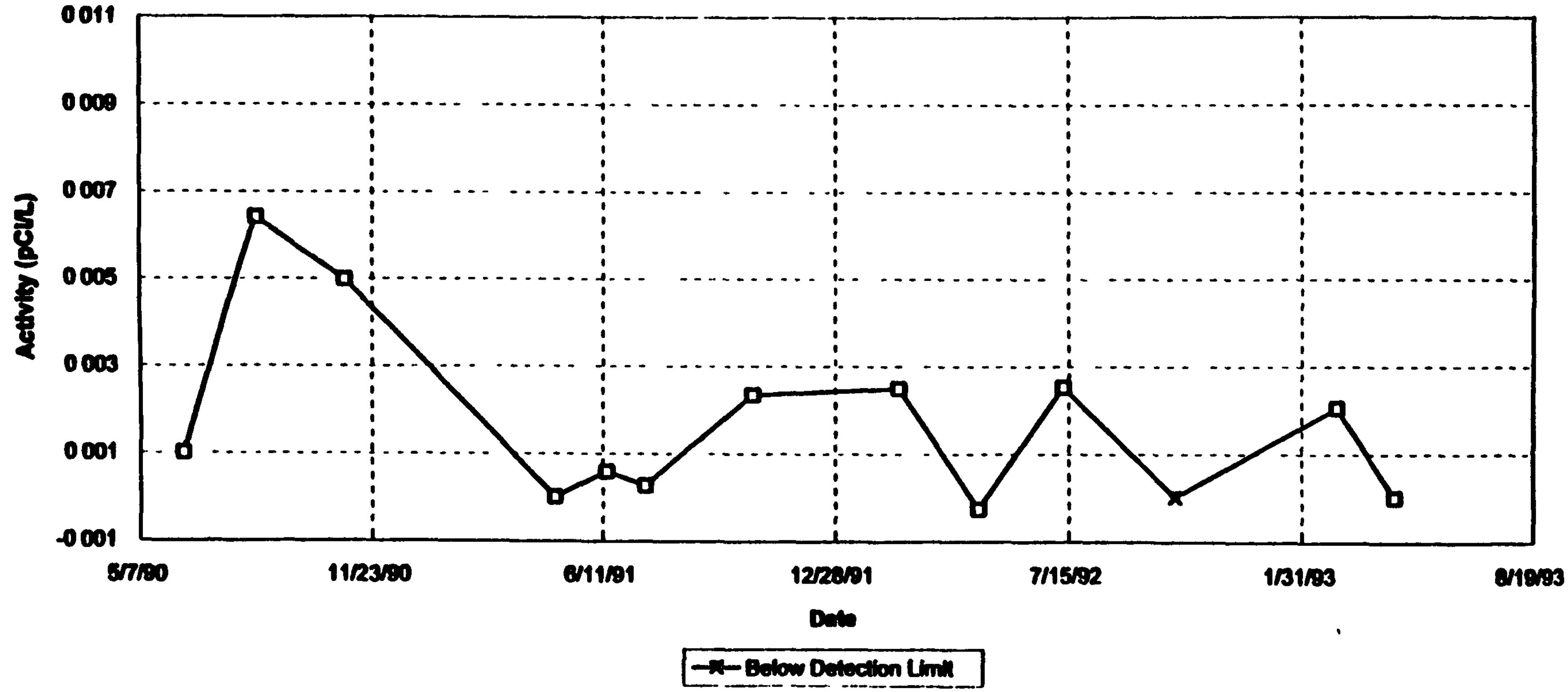


PLF_PLOT.XLS 2/18/94



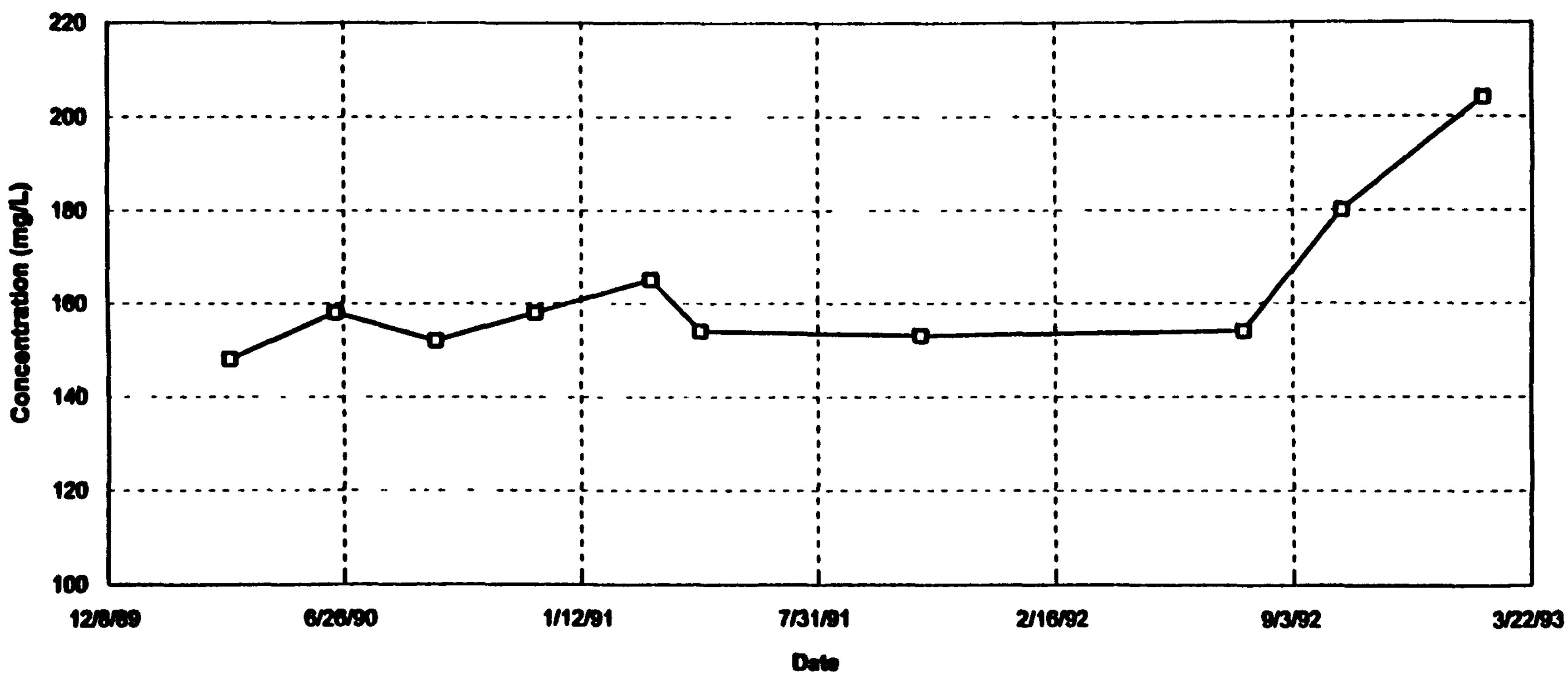
PLF_PLOT.XLS 2/18/94

Present Landfill
Plutonium-239,240
Well B207089



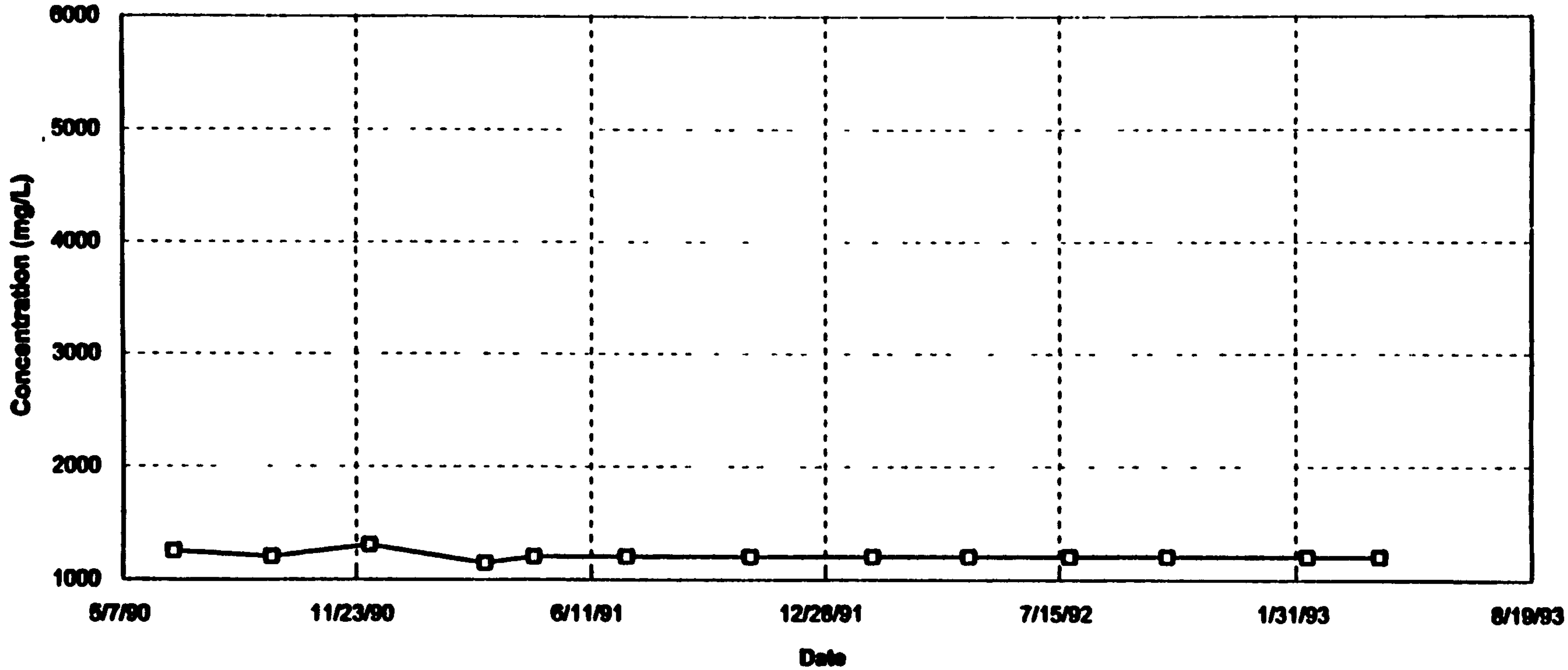
PLF_PLOT XLS 2/18/94

Present Landfill
Calcium
Well B206789



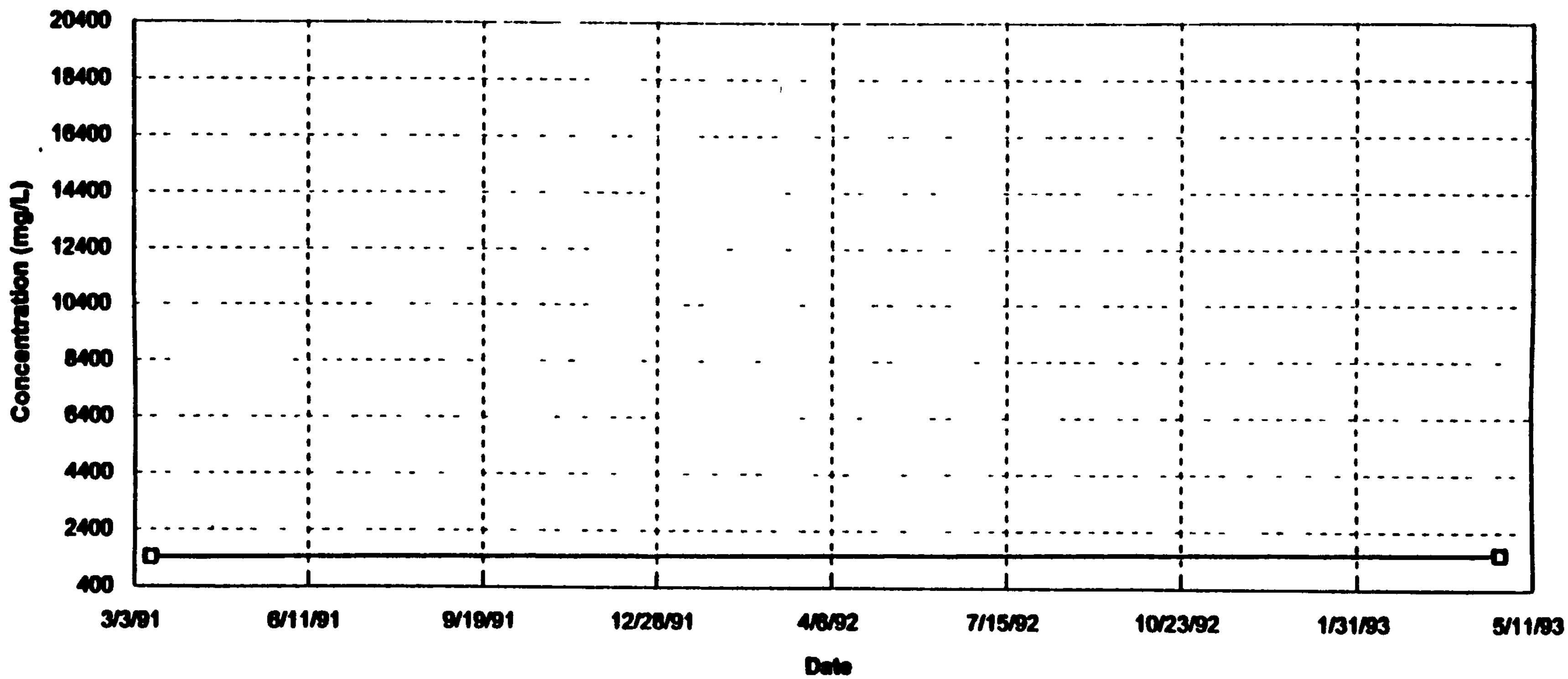
PLF_PLOT.XLS 2/10/94

Present Landfill
Total Dissolved Solids
Well B206789



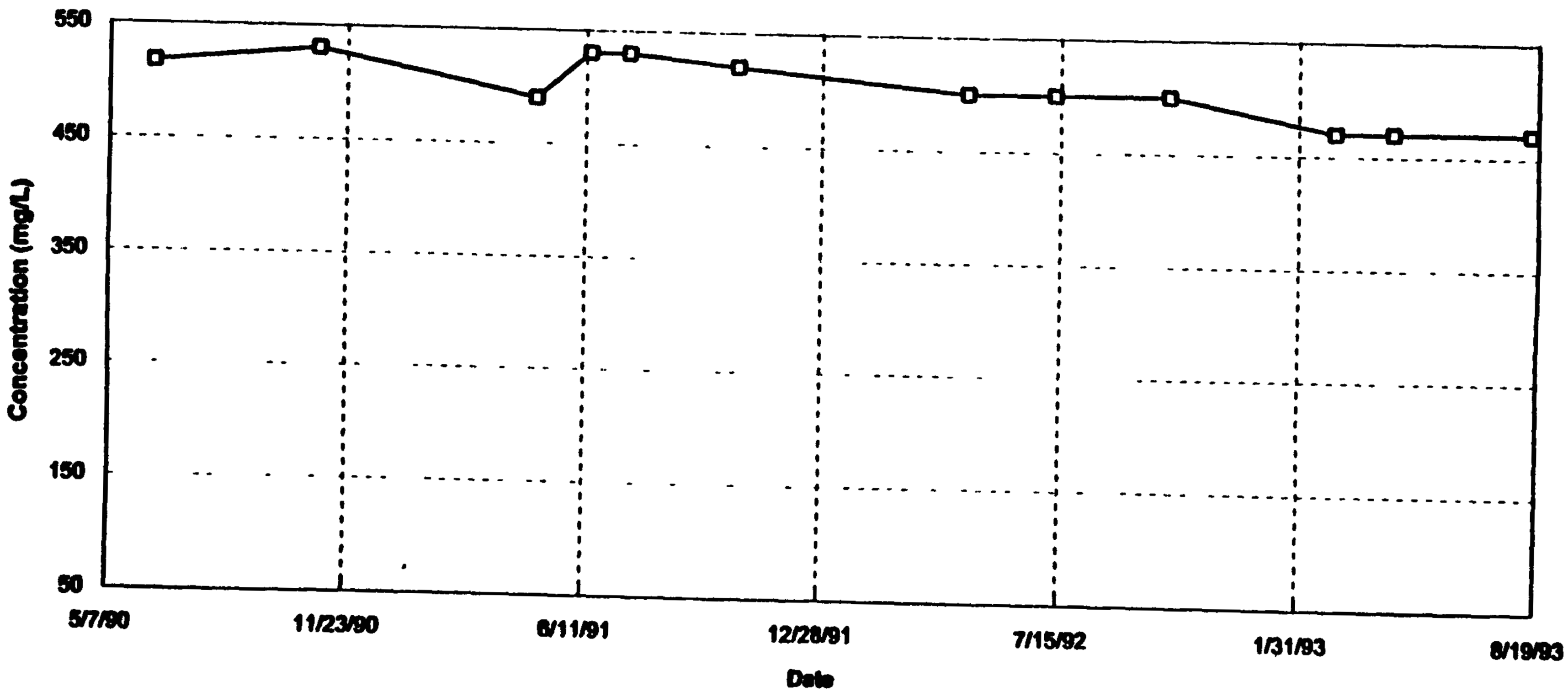
PLF_PLOT.XLS 2/18/94

Present Landfill
Sulfate
Well B206889



PLF_PLOT.XLS 2/16/94

Present Landfill
Chloride
Well B207089



PLF_PLOT.XLS 2/18/94

Appendix P

Responses to Comments on the Draft Final Revised Work Plan Technical Memorandum

Responses to Comments

Draft Final Revised Work Plan Technical Memorandum

Operable Unit No 7

CDPHE Comments on the OU 7 Technical Memorandum

1 0 General Comments

1. Comment

Substantial effort is given to site-to-background statistical comparisons for the purposes of selecting Potential Contaminants of Concern (PCOCs) Due to the nature of the OU 7 closure, much of this is superfluous The landfill proper will be closed using a presumptive remedy, rendering PCOC selection unnecessary Decisions regarding surface- and ground-water will be based on comparing analyte concentrations to ARARs The leachate seep is a F039 listed hazardous waste and must be managed accordingly The only OU 7 areas where decisions will be risk-based, and require PCOCs/COCs for that purpose, are the sediments and soils

Response

Implementation of the presumptive remedy strategy at OU 7 does not render PCOC selection unnecessary Statistical comparisons of site-to-background data for OU 7 using the Gilbert methodology (EG&G 1994) were performed primarily for the purposes of delineating the nature and extent of contamination and evaluating remedial alternatives Where appropriate, PCOCs identified using the Gilbert methodology may be used in the risk assessment. The site-to-background comparisons have been completed and remain in the technical memorandum

2 Comment

The data sets used for two of the critical site-to-background comparisons are not appropriate The Division has previously emphasized that use of surficial soils background data from Rock Creek is limited to OUs 1 & 2 The agencies recently granted approval to DOE's *Background Soils Characterization Program Work Plan*, validated data from this effort may be available as early as this fall Additionally, the use of stream sediments as a background against which to compare the East Landfill Pond (ELP) sediments is geologically improper

If a site-to-background statistical comparison of surficial soils and sediments will drive any decisions at OU7, DOE must use approved background data However, we will not allow continued use of OU1 and OU2 data for all subsequent OUs, particularly now that a surface soil background program has been approved DOE has also failed to collect representative background for reservoir sediments This has sitewide significance and affects at least OUs 3, 5, 6, and 7

This leaves several options i) wait until suitable background data sets are available, ii) omit the statistical background comparison altogether and proceed with all analytes through the remainder of the COC selection process, or iii) assume that, based on current analyses presented in the TM showing several analytes over draft PRGs, both the East Landfill Pond surface soils and sediments will require action and include them in presumptive closure design for the landfill We recommend that DOE proceed with options ii) and iii) for the sediments and option i) for the surface soils

Response

Background data sets for surface soils and pond sediments are not drivers for landfill closure CDPHE has proposed waiting to perform site-to-background comparisons until a suitable background data set for surface soils is available For the purposes of presenting the nature and extent of contamination, determining data gaps, and proposing additional sampling to fill them, the existing site-to-background comparisons using Rock Creek background data are sufficient. Pond sediments and surface soils around the pond will be included in the presumptive closure design for the landfill Background data from the Background Soils Characterization Program will be used for site-to-background comparisons for the risk assessment performed on soils outside the landfill cap after closure

3 **Comment**

Implications of subsurface contamination upgradient of the landfill and both surface/subsurface contamination downgradient of the East Landfill Pond are largely ignored The text mentions their existence but stops short of envisioning options If upgradient contamination from another source not characterized in any other investigation has crossed the OU7 boundary, it remains OU7's responsibility to manage any risk from that contamination

Response

Groundwater contamination upgradient of the landfill will be addressed in the Phase I RFI/RI for OU 10, Other Outside Closures The text of the OU 7 Work Plan Technical Memorandum has been modified to reflect this management strategy Subsurface contamination in groundwater downgradient of the East Landfill Pond will be investigated during Phase II

2 0 Specific Comments

1. Comment

Table 2-6 lists the geometric mean for the hydraulic conductivity of "Disturbed Alluvium & Fill Material" (artificial fill) as 4 37 cm/sec This appears to be missing the corresponding power of ten notation

Response

Table 2-6 has been revised to reflect the correct geometric mean for the hydraulic conductivity values of "Disturbed Alluvium and Fill Material" (1 91 x 10^{-5} cm/sec) and "Landfill Debris" (3 74 x 10^{-5} cm/sec)

2. Comment

The following three comments relate to ELP surface soils and the larger issue of background

All but one of the 17 PCOCs for ELP surface soils failed the hot measurement test (Table 4-13) However, the results of all of the comparisons are not provided The Appendix M data disk only contains hot measurement test results for groundwater For example, because one data point for americium-241 is 26 6 times larger than the corresponding (Rock Creek) $UTL_{99/99}$ it would be informative to look at the plutonium-239/240 value at the same location This is not possible without the data

The $UTL_{99/99}$ values presented in Table 4-14 do not fully agree with the values from Table 3-9 of the *Background Soils Characterization Program Work Plan* (Metals Concentrations in Surface Soils from Rock Creek Study) Specifically, the values for calcium, magnesium, selenium, sodium, vanadium, and zinc in Table 4-14 are higher than those in the reference document This brings the validity of the remaining $UTL_{99/99}$ values that were not presented in Table 4-14 into question

Figures 4-17 through 4-27, depicting the extent of surface soil contamination, reference the *Background Geochemical Characterization Report for 1992* The correct version of this report is the final submittal dated September 1993, and to the Division's knowledge, does not contain surface soil data from 0 to 2 inches We were unable to verify the $UTL_{99/99}$ values presented on these Figures

This discussion needs to correctly and consistently identify the data sources AND provide ALL relevant data to allow confirmation of the conclusions

Response

Results of all statistical analyses are included on a data disk in Appendix M Analytical data are included on a disk in Appendix N

Background values for surface soils were calculated using data from the Rock Creek study area However, these data were subject to the cleanup steps used to develop an internally consistent database prior to performing calculations of the $UTL_{99/99}$ (see Section 3 1 3) The $UTL_{99/99}$ values presented in Table 4-14 of this report are slightly different than the values from Table 3-9 of the Background Soils Characterization Program Work Plan as a result of these data cleanup steps

3. **Comment**

Section 4 4 2, Bedrock Geologic Materials The Division is reticent to accept the argument that high strontium concentrations (or any other analyte failing the statistical tests) is due to differences in the types of geological materials instead of the presences of contamination This undermines the whole purpose of the background comparison In such a case the analyte should be carried through the remainder of the COC selection process

Response

The OU 7 Work Plan Technical Memorandum does not recommend elimination of strontium as a PCOC The technical memorandum merely states the fact that elevated concentrations of this analyte occur in borehole samples hydraulically upgradient and downgradient of OU 7 Because concentrations downgradient are similar to concentrations upgradient, it cannot be conclusively stated based solely on statistical comparisons that OU 7 represents a source of strontium that has migrated to downgradient borehole locations causing contamination

4. **Comment**

Section 4 7 2, VOC Distribution in Groundwater The "total VOC" approach presented may be helpful to describe the spatial extent of VOCs in groundwater but will have no bearing on remedial decisions for this media

Response

The nature and extent of contamination was evaluated using "total" VOC concentrations, however, it is agreed that this approach has no bearing on remedial decisions

5 **Comment**

Sections 4 7 3 and 4 7 4 The discussion of the nature and extent of contamination in UHSU/LHSU groundwaters is lacking any mention of metals

Response

The discussion of the nature and extent of contamination in UHSU/LHSU groundwater (Sections 4 7 3 and 4 7 4) includes a general discussion of metals contamination and refers to tables showing metals identified as PCOCs Because of the random distribution of metals in UHSU/LHSU groundwater, no isoconcentration maps are included This section has been revised as appropriate to expand the discussion of the distribution of metals in groundwater

6 **Comment**

Table 4-2 Why is the volume of compacted trash for the years 1987-1991 almost triple the volume of all other years?

Response

The daily volume of compacted trash for the years 1987-1991 is estimated at 115 cubic yards but no information is provided regarding why the volume is so large (DOE 1991)

7 **Comment**

Section 5 4, DQOs for ELP Sediments and Adjacent Soils The text states that the information required to make a decision includes estimates of the risk to human health and the environment (i e a "focused" risk assessment), that sources for each item of information have been identified, and that sufficient data have been collected to make decisions about the need for remediation It goes on to say that the number of surface soil samples collected during the Phase I RFI/RI far exceed the minimum required to support the DQOs Nevertheless, additional samples are recommended

The Division does not understand why verification samples at locations exceeding the $UTL_{99/99}$ are necessary The Phase I data is validated and fully useable - why repeat the effort? Defining the spatial delineation of hotspots may be needed, but resampling the same locations for verification purposes seems needless

Are three samples sufficient to adequately characterize the sediment? Most statistical literature considers a sample size of eight to be a minimum

Response

Verification sampling at locations that exceed the $UTL_{99/99}$ were originally proposed because much of the area east of the landfill has been regraded and the hotspots may no longer exist. Because the proposed landfill cap extends to the dam, surface soil samples for verification of hotspots are no longer necessary upgradient of the dam

It is agreed that most statistical literature considers a sample size of eight to be a minimum State land disposal restrictions (LDRs) do not trigger further action at the East Landfill Pond, therefore, sediments will be covered by the landfill cap

8. **Comment**

Section 5 5, DQOs for Groundwater and Surface Water The decision to remediate organics cannot be based on the analysis presented in Section 4 7 The "total VOC" discussion qualitatively describes nature and extent, however, there are no ARARs for total VOCs, and as such, has no basis in remedial decisions

Response

Section 4-7 presents a list of PCOCs identified in UHSU and LHSU groundwater, the mean concentration, and the concentration range These analyte concentrations can be used for ARARs comparisons Isoconcentration maps can be used in concert with potentiometric surface maps to design the groundwater control/collection system The "total VOC" discussion supports the presentation of nature and extent of contamination only and has no bearing on remedial design

9. **Comment**

Section 5 6, DQOs for the Landfill Conflicting statements exist regarding the disposition of leachate Section 5 6 2 says leachate collection is not required if concentrations do not exceed chemical-specific ARARs, Section 5 6 5 says containment, control, and treatment of leachate is a component of the presumptive remedy The text needs to be changed to reflect a consistent strategy The Division endorses the latter approach

Response

The text in Section 5 6 2 has been revised as requested

10 Comment

Section 6 2, Surface Soils As previously noted, the Division does not support the need for confirmatory sampling Omitting this duplicative step would significantly reduce costs associated with Phase II fieldwork Delineating the area of soil contamination, to the extent the Phase I data has gaps, is acceptable

Response

Verification sampling has been omitted as requested

11. Comment

Section 6 3, Groundwater The Division questions objective (1) for the additional monitoring wells Section 2 presents a strong argument that the groundwater collection and diversion systems on the north side of the landfill have failed Add to this fact that landfilled waste has extended beyond the intercept system, implying any new system would need to be outside the edge of waste, makes determining the adequacy of the existing system unimportant. The location of these proposed wells is also missing from Figure 6-3

The two proposed wells north and south of the ELP are very close (perhaps 250 feet) to existing wells 7187 and B206689, respectively, and are to be screened in the same intervals as the existing wells Will these proposed locations really tell us anything the existing wells cannot?

Response

The two monitoring wells proposed to evaluate the effectiveness of the groundwater intercept system were included in the sampling and analysis plan in error A new slurry wall will be constructed outside the groundwater intercept system, therefore, there is no need for additional evaluation

The two wells originally proposed north and south of the East Landfill Pond were located midway between the groundwater plume at the landfill and the groundwater plume downgradient of the pond embankment Because the landfill cover will extend to the dam, the information from these wells is no longer necessary to support design of the groundwater collection system the contaminant plume will be contained and the groundwater collected downgradient of the dam

12 Comment

Section 6 4, Landfill Cap Design What is the purpose of collecting 27 samples of the existing soil cover? This will all be under the cap Load bearing capability of this foundation layer is needed but can be determined with fewer samples

Response

It was originally proposed that 27 samples of the existing soil cover material be collected for load-bearing estimates Since the field sampling plan was completed, engineers designing the landfill cap indicated that a determination of the load-bearing capability of the existing soil cover material is not necessary for the landfill cover design The field sampling plan has been revised accordingly

EPA's Comments on the OU7 Technical Memorandum

1 0 General Comments

1 **Comment**

The text states that the purpose of the proposed modified field sampling plan (FSP) is to gather information to support a risk assessment. The risk assessment is a useful tool to evaluate the site risks to determine whether or not an action is warranted for the site In the case of OU7, the Present Landfill, it has already been decided that an action needs to take place pursuant to closure requirements under RCRA The current closure approach for OU7 consists of a landfill cover based on the presumptive remedy Therefore, a risk assessment is not required to justify the closure action However, a risk assessment will be required to evaluate post-closure site risks

Response

The purpose of the Phase II field sampling plan is to address data gaps identified during the data quality objectives process

On the basis of presumptive remediation, the scope of the risk assessment for OU 7 will be streamlined The containment remedy addresses all pathways associated with the source The threat of direct contact and surface water runoff is addressed by capping Exposure to contaminated groundwater, the ingestion pathway, is addressed by groundwater treatment/control Exposure to landfill gas, the inhalation pathway, is addressed by gas control or collection and treatment.

No quantitative risk assessment is required at the source Justification for remedial action is the exceedance of chemical-specific ARARs in groundwater Because the landfill cap extends to the dam, no risk assessment on pond sediments and surrounding soils is required

Analyte concentrations in surface soils not under the cap will be compared to PRGs after landfill closure An assessment of risk is required for groundwater contaminated by migrating leachate to determine the need for additional remedial action in areas beyond the cap Residual risks will be evaluated after closure of the landfill

2. **Comment**

There are several inconsistencies throughout the text regarding the East Landfill Pond sediments The text states in the executive summary that the sediments should be sampled in order to determine whether the sediments should be remediated or not Later, in Section 5, page 5-11, it is stated that five out of the 12 potential contaminants of concern (PCOCs) for the sediments, based on previous sampling efforts, exceeded the TBC or PRG by at least one order of magnitude The text further states that it is unlikely that additional data will affect the decision to remediate the pond sediments The proposed FSP in this TM intends to take three additional samples from the pond sediments Because the available data already support a decision to remediate the pond sediments, the need for further sampling solely for characterization purposes is questionable EPA feels that further sampling of the pond sediments may be warranted to support the selection of a remedial technology or remedial strategies For example, sediment sampling could be useful for the following purposes to determine the total volume of sediments to be remediated, to perform contaminant leachability tests (TCLP), and to perform treatability studies EPA suggests that proposed pond sediment sampling activities be revised in order to redefine the scope of the effort and its purpose

Response

Preliminary engineering design of the landfill cover indicates that the cap will extend to the pond embankment State LDRs do not trigger further action at the pond, therefore, the sediments will be covered by the landfill cap No additional sediment sampling is proposed Inconsistencies or discrepancies in the text will be corrected

3. **Comment**

The Phase I RI report included in this TM failed to adequately evaluate the effectiveness of some physical structures such as slurry walls and interceptor trench systems installed around the OU7 area Specific comments regarding the effectiveness of these physical structures are detailed in the specific comments below and in PRC comments

Response

The "Effectiveness of Landfill Structures" (Section 2 5 4) evaluation addressed all known information relevant to the subsurface drainage structures The historical and acquired Phase I hyrogeological data along with the information derived from the 1991 ground-penetrating radar investigation provided multiple explanations as to the effectiveness of the landfill structures Given the evidence that refuse extends beyond the subsurface landfill structures, new landfill structures will have to be constructed under the presumptive remedy approach Therefore, based on the streamlined approach for remediation and closure of the landfill, the effectiveness of the landfill structure has for all practical purposes been adequately characterized The existing landfill structures will be abandoned in place and replaced under the landfill closure IM/IRA.

4. **Comment**

The Phase I RI report also failed to evaluate the fate and transport of contaminants within the unsaturated zone This is critical information for closing hazardous waste in place Ground water impacts from sources of contamination left in place need to be fully evaluated and understood In this manner, the appropriate cover design and post-closure care monitoring plan can be properly developed This TM needs to include a detailed discussion on the behavior of the contaminants present in OU7

Response

Under the NCP, characterization of landfill material is not required All source material in the vadose zone within the landfill is trash Source containment is the presumptive remedy for municipal landfills and consists of the following elements landfill cap, institutional controls, gas collection and treatment, leachate collection and treatment, and source area groundwater control The existing groundwater intercept system and slurry walls will be abandoned in place under the landfill closure IM/IRA The landfill cap and the new slurry wall will prevent infiltration of water and formation of leachate in the future for source area groundwater control

5. **Comment**

Due to major flaws with the Phase I RI report, EPA is unable to determine whether there are any field data gaps within the OU7 area If it turns out that field data gaps exist after the TM is revised, then EPA will require additional field sampling activities to be performed

Response

Additional data evaluation activities were performed to identify information needed to support design of the landfill cap, slurry wall, leachate collection and treatment system, and groundwater collection system The rationale for determining field data gaps is presented in Section 5 Field activities proposed to collect these data are presented in the field sampling plan (Section 6)

2 0 Specific Comments

1. **Comment**

Section 2 5 4 1, Transect AA-AA' This section discusses transect BB-BB' instead of AA-AA' This needs to be revised to refer to the appropriate location being discussed

Response

This section does not discuss transect BB-BB' Figure 2-31 "Well Hydrograph Transect Location Map" show that wells 70093, 71193, 71493, 71693, and 71893 lie along Transect AA-AA' The text in Section 2 5 4 1 correctly refers to these wells (p 2-29), therefore it is unnecessary to refer to Transect BB-BB'

2 **Comment**

Section 2 5 4 1, Transect BB-BB' North Side Change to "Transect CC-CC' "

Response

Figure 2-31 shows that wells 6087, 6187,6287, 6387, and 73293 lie along Transect BB-BB' The text in Section 2 5 4 1 correctly refers to these wells (p 2-29) Therefore, this section does not need to refer to Transect CC-CC'

3. **Comment**

Section 2 5 4 1, Transect CC-CC' South Side The conclusion in this section that the interceptor trench system is effective in this location because of differences between the saturated thickness of both alluvial wells is not well supported Differences in saturated thickness could be due to a slope area or any other lithology differences It is not appropriate to rely only on the saturated thickness of the wells to evaluate the effectiveness of the interceptor trench system In addition, looking at Table 2-7, the water-level elevation between the two wells is about the same (0 03 ft difference) This may be a good indication that the interceptor trench system is not effective This section needs to be revised to provide better justification of the conclusion or the conclusion should be changed

Response

The saturated thickness of the surficial materials was not the only criteria used to evaluate the effectiveness of the south groundwater intercept system The well hydrographs, potentiometric maps, and groundwater quality comparisons were all used during this evaluation The following summarizes the findings of each evaluation

1 Figure 2-29 shows a saturated thickness difference of 4 93 feet between wells 6587 and 6487 (p 2-30)

2 As stated in the text (p 2-30), the well hydrograph presented in Figure 2-34 shows that water levels outside or upgradient of the intercept system are higher than water levels within the system

3 In contradiction to what was stated in the referenced comment, the potentiometric maps of surficial materials (Figures 2-21 through 2-24) and Table 2-7 show that the mean water level difference between wells 6487 and 6587 is 3 27 feet, not 0 03 feet

4 In Section 2 5 4 2, "Groundwater Quality Comparison" (p 2-33 and 2-34) it is discussed that the TDS concentrations in well 6487 are significantly greater than in 6587 (Figure 2-31)

These evaluations strongly suggest that the south groundwater intercept system along Transect CC-CC' is effectively diverting groundwater away from the landfill

4 **Comment**

Section 2 5 4 1, Transect DD-DD', Evaluation of the North Slurry Wall This section states that based on the well hydrograph and isopach maps of well 6787 and 6887, groundwater appears to be flowing over and/or through the slurry wall Instead of concluding that the slurry wall is not effective at this location, the text argues that it is possible that the well pair was not properly positioned on either side of the slurry wall or that the slurry wall does not extend this far to the east. EPA feels that the relative location of wells from the slurry wall should be known If the location of the slurry wall is unknown, then efforts to locate it using geophysical techniques should be performed This section needs to be revised to provide better justification of the conclusion or the conclusion should be changed

Response

As was discussed in Section 1 4 4 (p 1-16), the ground-penetrating radar investigation conducted during 1991 suggests that the north slurry wall is located farther west than previously thought. Based on the well hydrographs and isopach maps, the north slurry wall is not effective in diverting groundwater away from the landfill However, the entire groundwater intercept system and slurry walls will be abandoned in place and replaced under the landfill closure IM/IRA

5. **Comment**

Transect EE-EE' Evaluation of the South Slurry Wall Change to "Transect DD-DD' "

Response

Figure 2-31 shows that wells 72293, B206389, 7287, and B206489 lie along Transect EE-EE' The text in Section 2 5 4 1 (p 2-31) correctly refers to these wells, therefore it is unnecessary to refer to Transect DD-DD'

6. **Comment**

Section 6 2, Surface Soils, page 6-2 The FSP proposes collecting 39 additional surficial soil samples at 34 hotspot locations identified from previous sampling efforts for confirmation purposes EPA feels that in order to confirm adequacy of previous data, fewer surficial samples will be sufficient EPA recommends that five samples be collected for confirmation purposes If it is determined that surficial soil data gaps exist within the OU7 or East Landfill Pond area, additional surficial soil samples may need to be taken

Response

Verification sampling at locations that exceeded the $UTL_{99/99}$ were originally proposed because much of the area east of the landfill has been regraded and the hotspots may no longer exist. Because the proposed landfill cap extends to the dam, surface soil samples for verification of hotspots are no longer necessary upgradient of the dam (see response to CDPHE Comment 10)

7. **Comment**

Section 6 2 1, Proposed Field Sampling Activities The text states that subsurface soil samples will be collected using the hand auger method outlined in Geotechnical SOP 08, Surface Soil Sampling (EG&G 1992c) This is inconsistent with Section 6 3 1 which suggests the use of a hollow-stem auger equipped for continuous core sampling in accordance with Geotechnical SOP 02 It appears that the wrong SOP is referenced in this case The hand auger method is not appropriate for collection of subsurface soil samples This section needs to be revised accordingly to include the appropriate drilling technique and respective SOP

In addition, it is not clear whether subsurface soil samples will be collected for characterization purposes EPA feels that it will be worthwhile to take advantage at each well location to collect subsurface soils during the drilling In this manner, further delineation of the extent of contamination of the unsaturated soils can be assessed EPA suggests that the FSP be revised to include subsurface soils collection and characterization The appropriate analytical suite for subsurface soil sample analysis needs to be developed and included in this TM

Response

The text in Section 6 3 1 is referring to surface soil samples from the 0- to 10-inch horizon In order to be consistent with the Phase I program, surface soil samples from the 0- to 10-inch horizon will be collected using the hand auger method The SOP reference is correct as stated

Concentrations of a few analytes exceeded the $UTL_{99/99}$ value in subsurface geologic materials, however, the exceedances did not occur consistently in the same samples or in samples from the same depth interval At the EPA's request, additional subsurface soil samples will be collected from the unsaturated zone at one location in No Name Gulch

8 **Comment**

Section 6 3, Groundwater EPA feels that the proposed eight well locations are adequate as a starting point to evaluate the three objectives outlined in the last paragraph of this page EPA is concerned that the results of this sampling effort may suggest that additional sampling is required to fully evaluate the three objectives If this turns out to be the case, then EPA will require additional sampling to be done This section should include this possibility

Response

Wells 4087 and 4287 are currently being sampled monthly or bimonthly to better delineate the nature and extent of contamination downgradient in No Name Gulch before the Phase II wells are installed In addition, two new wells have been installed under the WARP program, and three new piezometers have been installed upgradient of the confluence with North Walnut Creek They will be sampled during fourth quarter of 1994 This information will be used to determine data gaps, optimize the locations of the Phase II wells, and hopefully alleviate the need for a Phase III RFI/RI

9 **Comment**

Section 6 4, Field Activities Related to Landfill Cap Design EPA agrees that information on the physical properties of the soils and gas emission rates are useful for the selection of the landfill cap design However, EPA feels that the evaluation of the appropriate landfill cap design for OU7 may require additional information on the fate and transport of contaminants within the unsaturated zone For example, contaminant leachability test columns, leachability transport models and TCLP analysis will provide crucial information to evaluate and select the appropriate cap design EPA suggests that the scope of this section be expanded to include the above field activities It is important to understand the behavior of contaminants present at OU7 and their migration potential to ground water One of the main objectives of the closure of OU7 is to stop sources impacting ground water quality

Response

Contaminant leachablility tests, leachablility transport models, and TCLP analyses do not provide data necessary for landfill cap design Under the NCP, characterization of landfill material is not required All source material in the vadose zone within the landfill is trash In addition, the cap and new groundwater intercept system will prevent infiltration of water and formation of leachate in the future The existing groundwater intercept system will be abandoned in place and replaced under the landfill closure IM/IRA

Two boreholes will be drilled at and north of the leachate seep (SW097) to determine the depth to bedrock and thickness of alluvial and weathered bedrock material for use in the leachate collection system design Drawdown recovery tests will be performed in the open boreholes to estimate hydraulic conductivity values and calculate leachate flow rates No samples will be collected at these locations

One borehole will be drilled at the proposed leachate storage tank location to determine the depth to bedrock and thickness of the alluvial and weathered bedrock material for use in design of the foundation for the storage tanks Samples of the alluvial material will be collected for geotechnical testing to determine the load-bearing capability of the material

Three boreholes will be drilled around the landfill to determine the depth to bedrock and thickness of the weathered zone along the probable alignment of the slurry wall for use in landfill closure design No samples will be collected and no tests will be performed at these locations

Two boreholes will be drilled to determine the depth to bedrock and thickness of the weathered zone on the slopes below the dam for use in design of the downgradient groundwater collection system No samples will be collected and no tests will be performed at these locations

PRC Comments on the OU7 Technical Memorandum

1 0 Introduction

At the request of the U S Environmental Protection Agency (EPA), PRC Environmental Management, Inc (PRC) has conducted a technical review of the Draft Final Revised Work Plan for Operable Unit 7 (OU7) at the U S Department of Energy (DOE) Rocky Flats Plant (OU7 Revised Work Plan) OU7 consists of the Present Landfill and the Inactive Hazardous Waste Storage Area which have been designated Individual Hazardous Substance Sites (IHSSs) 114 and 203 The OU7 Revised Work Plan was submitted to EPA by EG&G on behalf of DOE on May 30, 1994

The comments generated from this review are divided into general and specific comments General comments pertain to the document as a whole or to multiple sections of the document Specific comments are keyed to a particular page, paragraph, table, or figure Where FRC found similar problems in several sections of the report, a general comment was written to avoid redundancy General and specific comments appear in Sections 2 0 and 3 0 of this review Conclusions appear in Section 4 0 of this report. References are contained in Section 5 0 Typographical and editonal errors within the OU7 Revised Work Plan have not been addressed, except when the clanty of the document was affected

2 0 General Comments

Section 2 0 - Site Charactenzation

1. **Comment**

A large portion of the charactenzation focuses on an evaluation of the structures designed to divert groundwater away from the landfill (slurry walls, groundwater diversion/leachate collection system) Well pairs that supposedly straddle these structures are used to compare hydrologic and chemical conditions on either side of the structures in an attempt to determine whether the structures function as intended However, the text indicates that the location of these structures is not always known relative to the well pairs, rendering the analysis inconclusive

A specific example is the analysis of total dissolved solids (TDS) data in Section 2 5 4 2 Groundwater TDS results from paired wells that supposedly straddle the groundwater diversion system or slurry walls were statistically analyzed The null hypothesis is stated as a TDS concentration in groundwater outside the interceptor system are statistically different than TDS concentrations in groundwater inside the interceptor system The results of this statistical companson, however, are used to draw conclusions other than to accept or reject the null hypothesis For instance, the analysis determined that TDS concentrations at well 71493, which is supposed to be located inside the interceptor system, are similar to TDS concentrations at wells 70093 and 71193, which are located outside the interceptor system Instead of rejecting the null hypothesis that TDS concentrations are different on either side of the interceptor systems and concluding that the interceptor system is not effectively diverting groundwater at this location, the OU7 Revised Work Plan suggests that the results indicate that all three wells are located outside of the interceptor system Figure 2-40 shows that this part of the interceptor system is an inflow boundary (because it is not believed to be keyed into bedrock in this area), which would suggest groundwater inside the landfill at well 71493 is thoroughly mixed with groundwater from outside the landfill

This example highlights the major weakness of Section 2 0, that any analysis of the effectiveness of the groundwater intercept and diversion structures depends on first accurately locating the structures This could have been accomplished with various geophysical methods such as ground-penetrating radar The analyses of groundwater diversion structures effectiveness should not be considered conclusive in areas where there is any doubt of their locations Groundwater analytical results should not be used to determine the locations of these structures

Response

A ground-penetrating radar (GPR) survey was performed at the Present Landfill in 1991 (EG&G 1991a) to delineate the existing groundwater intercept system and slurry walls, locate pipe drain modifications and discharge valves, and provide qualitative information on the construction of the groundwater intercept system and slurry walls The landfill structures have been accurately located using GPR data and existing wells

The text in Section 2 0 has been revised to clarify the level of accuracy regarding the landfill structure locations Section 2 5 4 2, which discusses TDS data, has been revised to reject the null hypothesis

2. **Comment**

The groundwater flow velocities presented in Section 2 5 3 4 are questionable as a result of errors in quantifying input parameters, particularly in the area beneath and downgradient of the East Landfill Pond embankment. Significant errors were made in the calculation of hydraulic gradient and the estimation of hydraulic conductivity, both of which are addressed in specific comments later in this report. Indicative of the overall quality of this analysis is the assignment of a uniform range of effective porosity (0 1 to 0 2) for the entire range of subsurface materials at OU7, from unweathered claystone to landfill debris This section should be completely rewritten to provide estimated groundwater flow velocities that are supported by data If additional data are needed to fully characterize the area beneath and downgradient of the East Landfill Pond embankment, collection of these data should be incorporated into the Phase II field activities

Response

Significant errors were not made in the calculation of lateral hydraulic gradients (dh/dx) Contradictory to specific comments 2 and 10, hydraulic heads from two different geologic units were not used to calculate lateral hydraulic gradients Refer to page 2-25, paragraph 3, for the methodology used to calculate lateral hydraulic gradients This section states that the well pairs were only used to calculate the flow path distance "dx" The change in head "dh" of the specified unit (i e , surficial deposits or weathered bedrock) was obtained from the appropriate potentiometric surface maps

The range of effective porosity values used to calculate groundwater flow velocities in the surficial and weathered bedrock flow systems are well within the range of values for similar materials that are reported in the literature McWhorter and Sunada (1977) report ranges of effective porosity/specific yield values for clay (0 01 - 0 18), siltstone (0 01 - 0 33), and coarse gravel (0 13 - 0 25) Hurr (1976) reports Rocky Flats site-specific effective porosity values for the Rocky Flats Alluvium (0 1) and the Arapahoe Formation (0 1 - 0 15) In addition, the range of effective porosity values for the weathered bedrock is supported by estimated porosity values reported on the borehole logs (Appendix E) Based on the given information, the effective porosity values used to calculate groundwater flow velocities appear to be reasonable estimates

Section 6 0 addresses additional characterization downgradient of the East Landfill Pond Embankment The Phase II investigation includes the acquisition of geologic, groundwater chemical, and hydrologic data

3 **Comment**

A brief review of Section 2 6 7 revealed two conceptual errors with water balance components Vertical hydraulic gradients presented in Table 2-10 to support Section 2 6 7 7 include a gradient calculated from well pair 72393/72093 It is inappropriate to include this well pair in the calculation of the mean vertical hydraulic gradient from the fill to the weathered bedrock because both wells are screened in the fill material This may account for their anomalously low hydraulic gradient. The discussion of the calculation of groundwater base flow to the East Landfill Pond in Section 2 6 7 8 states, " because most of the East Landfill Pond bottom is underlain by unweathered bedrock, the cross-sectional area of flow is defined by the depth of groundwater at the pond shoreline" (the difference between pond surface elevation and landfill seep elevation) Geologic cross-section G-G' (Figure 2-15) depicts weathered bedrock having a thickness of 15 feet below the pond, which is supported by logs of nearby bedrock wells 0886 and B206789 Therefore, the cross-sectional area should be the difference between seep elevation and the mean elevation of the pond bottom This statement and any related calculations should be corrected

The water balance itself is very difficult to understand The relationship of each of the components listed in the columns of Table 2-14 is not immediately apparent Two different water balance equations are stated, one on page 2-40 and one on page 2-47 Neither equation can be used to calculate the monthly pond storages listed in column P To reproduce those numbers, the equation listed on page 2-47 must be used, discharge from the groundwater interception system must be added, and seepage from the landfill pond must be subtracted, Equations used should be accurately and consistently referenced in the document to avoid confusion

Response

The vertical gradients obtained from well pair 72393/72093 were excluded in the calculation of the mean vertical hydraulic gradient from the fill to the weathered bedrock Vertical seepage rates incorporated in the water balance were revised accordingly The water balance calculations in Appendix I were also revised

Using the proposed cross-sectional area (between the seep evaluation and mean elevation of the pond bottom) may overestimate the baseflow to the East Landfill Pond The conclusions in Section 2 6 8 state that (1) "surficial groundwater appears to be continuously recharging the East Landfill Pond" and (2) "downward seepage appears to be recharging the weathered bedrock beneath the East Landfill Pond " Therefore, the saturated thickness of the surficial materials surrounding the East Landfill Pond should be used to define the cross-sectional area of flow Figures 2-29 and 2-30 show that the saturated thickness along the East Landfill Pond shoreline is less the 2 5 feet Using a mean saturated thickness of 1 25 feet may be a more accurate approximation of baseflow to the East Landfill Pond

The water balance (Section 2 6 7) has been revised to minimize confusion about the relationship between the inflow and outflow components The OU 7 watershed was modeled as two separate systems (1) the Present Landfill Area and (2) the East Landfill Pond Drainage Area This clarifies inflow and outflow components and allows conceptualization of the hydrologic flow regime at OU 7

Other changes made to the water balance calculations are as follows

1 Surface water flow to the pond was added as an inflow component to the water balance for the East Landfill Pond drainage basin

2 Table 2-15 summarizes the inflow and outflow components of the Present Landfill area

3 For the Present Landfill area water balance, groundwater inflow under the North Groundwater Intercept system and groundwater outflow calculations were revised to reflect the changes made to the saturated thickness maps (Figures 2-29 and 2-30) In addition, evaporation from the landfill surface was reduced from 75 percent to 70 percent of total precipitation This slight change is still within the range of soil evaporation loss, 70 to 75 percent of total rainfall for the Great Plains area, reported by Brady (1974)

Section 3 0 - Data Quality and Usability

4 Comment

The OU7 Revised Work Plan calculated an average relative percent difference (RPD) for each analyte group (such as metals) in each matrix that was sampled, and used this average to assess whether the precision of data for each analyte group (by matrix) was acceptable The RPD is a measurement of the precision of data and is evaluated by comparing analytical results for real samples with their associated duplicate samples The RPD for a matrix should be assessed on an individual analyte basis, not as an average for an analyte group As previously stated in the report, acceptable RPDs are less than 20 percent for all analytes in water (surface and ground) and less than 35 percent for all analytes in soil (surficial, subsurface geologic material, and sediments) RPDs for individual analytes greater than these values are listed throughout Section 3 1 5 and are not within an acceptable range Therefore, all real data that correspond to this quality control (QC) result should be treated accordingly The precision criteria formulated for the contract laboratory program (CLP) and non-CLP method analyses should be followed

Response

RPDs for individual sample pairs (Real + Duplicate) commonly exceed the acceptable limits for precision The precision of each duplicate pair is described in Tables J-1 through J-7 For each media type sampled, the average precision, number of pairs exceeding the acceptable RPD value, and the percentage of RPDs exceeding the acceptable value are also reported for each analyte Results for the analytes having either more than 50 percent of the duplicate pairs or an average RPD exceeding the acceptable RPD value are qualified as "estimated results " This qualification (by media) is based on their failure to meet requirements for precision for the analyte Data are usable for the intended purposes of characterizing site physical features and identifying contaminant sources For analytes that do not meet the precision goals in more than 50 percent of the sample pairs, or where the average RPD exceeds the acceptable RPD value, all of the results reported for that analyte should be qualified as estimated results for the risk assessment

5 **Comment**

For example pairs where a detectable result is reported for one sample and a non-detect result qualifier is reported for another, the RPDs were calculated by substituting the detection limits for the nondetected results When evaluating a nondetected value, it is inappropriate to assume that value to be the detection limit The RPD is expressed as

$$RPD = \frac{(R-D)}{\left[\frac{(R+D)}{2}\right] \times 100}$$

R = the concentration of the analyte in the real sample

D = the concentration of the analyte in the duplicate sample

Therefore, if D is less than the detection limit, it is improper to assume that value to be the detection limit Standard practice for the calculation of an RPD where a compound is not detected is to assign one-half the detection limit as the concentration

Response

When one of the results from the duplicate pair (Real + Duplicate) is a non-detectable value, then the concentration of the analyte in that sample is not known, and the precision of the analysis cannot be calculated Therefore, use of either the detection limit or one-half the detection limit, both estimated values, to calculate an RPD cannot describe the precision of the analysis

Elsewhere in this document, one-half the detection limit has been used as a replacement value for non-detects (i e , to calculate summary statistics) However, a "standard practice" for calculation of RPDs when one of the results used is a non-detect is debatable Therefore, PRC's request for this change seems arbitrary and unnecessary for performance of the data quality analysis A more detailed explanation of the RPDs calculated for duplicate pairs with one non-detect result has been added to Section 3 1 5

6. Comment

Overall, the statistical analysis procedures used for background comparisons as outlined in this section are consistent with those recommended by Dr Gilbert (Gilbert 1993) and required for selection of chemicals of concern (COCs) at Rocky Flats However, distinction between which inferential statistical tests were used to support the selection of the contaminant as a preliminary chemicals of concern (PCOC) should be provided in the text If the chemical passes only one inferential statistical test, it must be retained as a PCOC

Typically, PCOCs were selected in the risk assessment, not in a sampling and analysis plan The text should provide justification and rationale for carrying out the PCOC selection process independent of the risk assessment and prior to sampling

Due to the time constraints, statistical calculations could not be verified It was assumed that all statistics were calculated correctly

Response

Tables presenting which statistical tests were used to identify PCOCs are presented in Appendix M Any chemical identified as being elevated above background concentrations by any of the statistical tests was identified as a PCOC PCOC identification was based upon the statistical guidance presented in Gilbert (1993) and agreed upon by EPA, CDPHE, and DOE

Statistical comparisons of site-to-background data for OU 7 using the Gilbert (1993) methodology were performed primarily for the purpose of delineating the nature and extent of contamination and evaluating remedial alternatives Where appropriate, PCOCs identified using the Gilbert methodology may be used in the risk assessment.

7. Comment

The work plan indicates that East Landfill Pond sediments will require remediation, because analytical results from sediment samples exceed five PCOCs by an order of magnitude or greater The accumulation of contaminants in the pond sediments suggests a lack of contaminant mobility within this environment. Furthermore, the pond provides a system for the natural attenuation of organic contaminants contained in the landfill leachate Thus, the pond functions as a collection system for the leachate and as a primary treatment system for organic contaminants Because leachate collection may be an integral component of the presumptive remedy for CERCLA municipal landfill sites

(EPA 1993), the East Landfill Pond should be replaced with a leachate control system if it is removed through remedial activities The OU7 revised work plan should discuss remediation of the East Landfill Pond in greater detail, and describe how a leachate control system will be integrated into the landfill closure process

Response

Preliminary engineering design of the landfill cover indicates that the cap will extend to the pond embankment. State LDRs do not trigger further action at the pond, therefore, the sediments will be covered by the landfill cap The cap is the primary source containment component of the presumptive remedy and is being developed under the landfill closure IM/IRA. A separate leachate collection IM/IRA will be constructed before landfill closure The various components of the presumptive remedy are now discussed in more detail as requested (see Section 1)

8. **Comment**

The results of volatile organic compound (VOC) analyses conducted on samples collected from the southern section of the landfill indicate that elevated levels of chlorinated hydrocarbons are present in the upper hydrostratigraphic unit Although these compounds may originate at another operable unit, they may affect the landfill and the selection of landfill remedial strategies Therefore, the work plan should include the installation and sampling of additional wells to identify the extent of the chlorinated VOC contamination In addition, existing wells in this area may require sampling and analysis for VOCs to accurately delineate the extent of the chlorinated VOC contamination

Response

The extent of chlorinated VOC contamination downgradient of the plume shown south of the landfill is limited by data at wells 7087 and B206589 where no chlorinated VOCs have been detected The landfill cover will extend to the outer edge of the contaminant plume south of the landfill, and the slurry wall will be constructed under the footprint of the cover Groundwater will be collected and treated downgradient of the dam (closure cell), if necessary

9 **Comment**

The use of averaged concentrations over a 3-year period to evaluate the nature and extent of landfill contaminants is inappropriate Averaging several years of data provides a false indication of the extent and type of contamination that is currently present at OU7 This approach may potentially obscure high and low concentrations, and does not provide accurate information on the locations and concentrations present in the environment

Each year of data should be averaged and isoconcentration maps prepared from these results Presented in this fashion, the three sets of data may indicate trends in the transport and fate also the future extent of the contamination

Response

Three years of groundwater concentration data were averaged and plotted to analyze the nature and extent of groundwater contamination at OU 7 The averaging technique was used to minimize the influence of seasonality and natural variability in intra-well concentrations Isoconcentration maps for each year or quarter would provide limited information due to missing data and data variability and would not provide a broad interpretation of groundwater contamination at OU 7 Averaging the data over a three-year period provides a better picture of general groundwater quality then would be provided by any individual sampling period It is recognized that these average concentration maps may not provide the best interpretation of groundwater quality for some remedial activities In these cases, other interpretations or maps (such as those displaying minimum and maximum concentrations) may be more appropriate For the purpose of analyzing the general nature and extent of groundwater contamination at OU 7, however, the average concentration maps are a useful and effective tool It is unlikely that maps depicting average yearly concentrations will indicate trends in the fate and transport of contaminants due to the high intrinsic variability of groundwater concentration data at OU 7

Groundwater-quality data from monitoring wells located upgradient of the landfill were compared to groundwater-quality data from monitoring wells located downgradient of the landfill to assess potential contaminant releases to the UHSU (EG&G 1994a) A summary of these comparisons is included in Section 4 7 3

Time-series plots were compiled for several analytes in UHSU groundwater downgradient of the landfill Trends in contaminant concentrations are discussed in Section 4 7 3 Time-series plots are presented in Appendix O

Section 5 0 - Data Quality Objectives

10. Comment

Section 5 discusses the data quality objectives (DQOs) associated with the investigation of the landfill and identifies the number of samples required to delineate the nature and extent of contamination for each media, sediments, groundwater, and the landfill However, it is not clear from the text in Section 6 (Sampling and Analysis Plan) how this information was used to determine the recommended number of samples to be collected during the additional investigation The rationale used during the investigation of the DQO process and the sampling design must be clearly presented

Response

The rationale used during development of DQOs and the resultant sampling design has been clarified as suggested

Appendix J, Data Quality Tables

11. Comment

Data in Tables J-11 through J-13 are presented in a format that is not consistent with the discussion of data quality in the text or consistent with other tables in the appendix The text and the other tables present data organized primarily by analyte type (metals, radionuclides) Tables J-11 through J-13 group all analyte types together, and list all compounds in alphabetical order, with analytes that have numerical prefixes preceding all other analytes Tables J-11 through J-13 should be reformatted to match the text and other tables

Response

Tables J-11 through J-15 have been reformatted as requested

3 0 Specific Comments

1. Comment

Page 2-20, Paragraph 3 The text states, "groundwater in the upper hydrostratigraphic unit (UHSU) generally flows to the east, but is diverted around the landfill by way of the groundwater intercept system " However, Figure 2-40 shows that groundwater passes beneath the intercept system along the northwestern boundary of the landfill There is also some question as to whether the slurry walls effectively divert water away from the landfill This statement should be revised to be consistent with the conclusions stated elsewhere in the text.

Response

This statement has been revised as follows "Groundwater in the upper hydrostratigraphic unit generally flows to the east, but localized flow near the landfill is altered due to stresses induced by the groundwater intercept system "

2. **Comment**

Page 2-28, Paragraph 1 The text specifies an average horizontal groundwater gradient through the surficial materials at the East Landfill Pond embankment that is calculated from water levels at wells TH047492 and 4187 Well 4187 is screened across an unweathered sandstone at a depth of 81 to 94 feet and should be considered part of the lower hydrostratigraphic unit (LHSU), whereas well TH047492 is screened across artificial fill (embankment material) and subcropping, weathered sandstone This well should be considered to be screened in the UHSU Geological cross-section G-G (Figure 2-15) also depicts groundwater in well 4187 as having a different (about 70 feet lower) potentiometric surface then well TH047492 Therefore, well 4187 should not be used to calculate hydraulic gradients in surficial materials, or in the UHSU Wells TH047292 and TH047492, both of which are screened across artificial fill and subcropping, weathered bedrock, should used to calculate the UHSU hydraulic gradient instead

Response

Refer to Section 2 5 3 (page 2-25, paragraph 3) for a clarification on the methodology used to calculate lateral hydraulic gradients (refer to response to general comment 2)

3. **Comment**

Page 2-28, Paragraph 2 This paragraph provides average linear groundwater flow velocities in weathered bedrock along three flow paths, one of which is below the East Landfill Pond embankment, between wells TH047492 and 4187 The input parameters for this calculation include a geometric mean hydraulic conductivity value of $4\ 97 \times 10^{-7}$ centimeters per second (cm/sec) estimated using drawdown recovery test data from wells 70193 and 70493 Wells 70193 and 70493 are both screened in claystone and clayey siltstone, whereas well TH047492 is screened in sandstone Therefore, the hydraulic conductivity value derived from wells 70193 and 70493 is inappropriate to use for the area beneath the East Landfill Pond embankment, which is underlain, at least in part by sandstone The phase II field investigation should include a drawdown recovery test in the weathered sandstone beneath or adjacent to the East Landfill Pond embankment, either in well TH047492 or in a new well that is screened in sandstone

Response

Agreed, a drawdown recovery test should be performed in the weathered bedrock adjacent to or downgradient of the East Landfill Pond embankment. Additional characterization downgradient of the East Landfill Pond embankment is addressed in Section 6 0

4 **Comment**

Page 2-31, Paragraph 2 This paragraph discusses the effectiveness of the south slurry wall at diverting water away from the landfill Hydrograph EE-EE' (Figure 2-36) is cited as an indication that the slurry wall is diverting water from the landfill because water levels are 1 to 6 feet lower on the north (downgradient) side of the wall The paragraph also cites the potentiometric (Figures 2-21 through 2-24) and isopach (Figures 2-29 and 2-30) maps as supporting this interpretation because they show lower water levels north of the wall However, the isopach and potentiometric maps also show a large unsaturated area east of the wall, which is in a downgradient direction beyond the end of the wall Groundwater should be diverted to this area if the wall is functioning properly This paragraph should discuss the presence of this large unsaturated area, and the implications that this unsaturated area may have on the evaluation of the south slurry wall's effectiveness

Response

Based on the supporting evidence, it is unlikely that the presence of the large unsaturated area east of the south slurry wall would have any implications on the evaluation of the south slurry wall's effectiveness given the following evidence

1 The TDS concentration map (Figure 2-33) also indicates that the slurry wall is directing groundwater away from the landfill because TDS concentrations are significantly higher on the north (downgradient) side of the intercept system

2 Figures 2-29 and 2-30 show a saturated thickness of less than 5 feet on the south side of the slurry wall This suggests that the weathered bedrock topography may influence local groundwater flow The weathered bedrock topography map (Figure 2-17) shows a northeast-trending ridge along the eastern margin of the slurry wall Because of the proximity of the weathered bedrock ridge to the unsaturated area, it is likely that this structural feature has an effect on localized groundwater flow, including groundwater flow being diverted away from the south slurry wall The potentiometric maps of surficial materials (Figures 2-21 through 2-25) reveal a groundwater divide west of the large unsaturated area, giving support to the previous statement.

5. **Comment**

Page 2-50, Paragraph 3 The text states that western wheatgrass is both the dominant graminoid in the mesic mixed grassland community of OU7, yet also describes it as a species present in lesser amounts than a dominant species The text should be clarified to indicate the correct category for western wheatgrass

Response

Western wheatgrass is a dominant grass in the mesic mixed grassland The text on page 2-50, paragraph 3, has been revised as requested to clarify this

6. **Comment**

Page 2-51, Paragraph 3 The text that the disturbed community included 27 species, of which seven were grasses, 18 were forbs, and two were subshrubs The text then states that the only shrub present was wild tarragon Fringed sage is included with forbs It is not clear what species were considered to be subshrubs or what criteria were used to distinguish shrubs and subshrubs The text should be clarified to describe the criteria used to distinguish the components of the disturbed community, and to identify the species included in each

Response

This paragraph has been clarified as requested

7. **Comment**

Pages 2-52 and 2-53 The text discusses wildlife surveys undertaken at Rocky Flats but cites only the environmental impact statement (EIS) produced in 1980 It is not clear whether the majority of the text is based on the EIS or on more recent studies Because more recent data exist, a 14-year old EIS report based on older data should not be used as the primary source or information on the site The most recent data should be used

Response

The results of a more recent wildlife study were mentioned in the text but not cited Page 2-52, paragraph 4, has been changed to clarify this

8. **Comment**

Figure 2-40 The analysis of groundwater levels at well pair 6787/6887 (pages 2-30 and 2-31) concludes that "groundwater appears to be flowing over and/or through the slurry wall" Figure 2-40, which depicts groundwater inflow and outflow boundaries of the landfill, should be revised to reflect this conclusion Water balance calculations in Section 2 6 7 should also be revised to reflect the longer inflow boundary

Response

See response to Comment 4 on page 13

9 **Comment**

Figure 2-42 The figure indicates that two locations in the pond were sampled for water and sediment toxicity studies The results of those studies were not provided in the discussion of ecological data provided in the text These results should be discussed

Response

Toxicity results are not appropriate for an ecological characterization To eliminate this confusion, the sampling location symbols have been removed from Figure 2-42

10. **Comment**

Table 2-9 This table summarizes lateral (horizontal) hydraulic gradients that were calculated for surficial materials and weathered bedrock The hydraulic gradient values are questionable for a number of reasons Horizontal hydraulic gradient is defined as a change in head from one well to another divided by the horizontal distance between the two wells Therefore, it is impossible that two different horizontal hydraulic gradients representing two different geologic units could be calculated between the same two well screens, as has been done for each pair of wells listed in the table Furthermore, hydraulic gradients in weathered bedrock are provided for each well pair even though five of the six wells are screened in surficial materials The only well screened in bedrock is screened in the LHSU and should not be included in this analysis of UHSU hydraulic gradients Horizontal hydraulic gradients should be recalculated in a manner that makes sense hydrogeologically, and raw data (water level measurements and their data) should be included with the table Furthermore, this analysis would be less confusing if the wells were divided primarily by hydrostratigraphic unit rather than by geologic unit, because some wells are screened across two geologic units

Response

The hydraulic gradients are not questionable and were calculated correctly Section 2 5 3 (page 2-25, paragraph 3) discusses the methodology used to calculate lateral hydraulic gradients (refer to general comment 2) However, Table 2-9 has been revised with a footnote that briefly describes the method used to calculate lateral hydraulic gradients

11. **Comment**

Figure 2-8 The groundwater intercept system is depicted in Figure 2-8 as consisting of perforated pipe along the entire length of the system This depiction contradicts all of the other figures, which show the perforated section extending only to, or slightly beyond, the western ends of the north and south slurry walls The figure should be corrected to accurately depict the perforated section of the groundwater intercept system

Response

The figure has been corrected as requested

12. **Comment**

Figure 2-13 Text and figures are not used consistent regarding the location of well B106089 relative to the groundwater intercept system Well B106089 is clearly depicted as being inside the groundwater intercept system on geologic cross-section E-E' (Figure 2-13) and on all of the potentiometric and isopach maps However, hydrograph FF-FF (Figure 2-37) states that well B106089 is located outside the groundwater intercept system The text on page 2-29 (which discusses hydrograph FF-FF) and page 2-34 (which discusses the evaluation of the leachate control system) also indicates that well B106089 is outside the groundwater intercept system Figures and text should be revised to be consistent. If the location of well B1060898 relative to the groundwater intercept system is not known with certainty, it should be clearly stated in the text

Response

According to Figure 2-7 in the OU 7 Phase I RFI/RI Work Plan, well B106089 is within the western extent of the sloping clay barrier wall and on the upgradient side of the perforated drain Therefore, the geologic cross section presented in Figure 2-37 has been corrected to reflect the position of well B106089

13. **Comment**

Figures 2-29 and 2-30 The two isopachs (saturated thickness of surficial materials) maps are poorly drawn and may lead to errors in calculation of landfill leachate volume The most prominent feature on these maps is a groundwater mound that is greater than 20 feet thick at wells 72093 and 72393 in the center of the landfill This mound extends from the area northwest of the landfill, where the groundwater intercept system is not keyed into bedrock and terminates abruptly beyond this well pair The only data points in the downgradient direction within the landfill are well pair 72293/72493, where the saturated thickness is about 2 5 feet. The bedrock topography map (Figure 2-17) shows that this well pair is situated on a bedrock ridge (interfluve) and that a channel incised into the bedrock surface probably lead from well pair 72093/72393 to cone petrometer test (CPT) point 01493 to a location at or slightly north of CPT point 02293 and then below the East Landfill Pond This channel passes north of well pair 72293/72493, which may be the reason that the saturated thickness is only 2 5 feet at this location Given the bedrock surface depicted in Figure 2-17, the most logical interpretation would be that groundwater below well pair 72093/72393 will follow the incised channel surface down to East Landfill Pond, forming a complete groundwater/leachate pathway to the pond This interpretation would be consistent with the statement on page 2-20 of the text " in the incised stream valley, groundwater flows toward the drainage or the East Landfill Pond, following the topography " Figures 2-29 and 2-30 should be revised to be consistent with this interpretation Calculations of landfill volume should also be revised to be consistent with this interpretation

Response

The saturated thickness maps have been revised to coincide with the weathered bedrock topography The landfill leachate volumes and the section on evaluation of the leachate collection system (Section 2 5 4) also have been revised accordingly

14 **Comment**

Section 3 1 6 This section discusses the accuracy of the OU7 data Accuracy measures the bias in a measurement system Bias is defined as

%B = 100 - %R

%R = the percent recovery of a spike of a known analyte

Accuracy was measured only for the dissolved and total metals of groundwater samples All matrices and analytes should be assessed for accuracy to fulfill the DQOs

Response

In accordance with EPA guidance and Rocky Flats quality assurance procedures, Section 3 1 6 defines accuracy and %Bias calculated from analyses of matrix spikes However, the OU 7 QAA and Rocky Flats Standard Operating Procedures require collection of matrix spike samples only during collection of groundwater samples Therefore, no matrix spike samples were collected for other media/matrices, and the results of their analyses cannot be discussed here as requested The accuracy of analyses of other media types is evaluated by the data validation subcontractor using information supplied to them by the laboratory With the exception of the lab qualifier, this information is not routinely available to the data users and thus is not described quantitatively in the OU 7 Technical Memorandum Additional discussion of the data validation process and use of lab qualifiers and validation codes in determining the usability of results has been added to Section 3 1 6

15. Comment

Table 3-2 Table 3-2 summarizes the actual QC samples collected at OU7 There are discrepancies between the required frequency of QC samples (Table 3-1) and the actual QC samples collected For example, of the 48 real soil gas samples collected at IHSS 203, only two field duplicate samples were collected The required frequency of field duplicates as stated in Table 3-1 is one duplicate per 10 real samples or one duplicate per sampling event (whichever is more frequent) Therefore, the required QC sample criterion was not met.

Response

The text now indicates that the QC sample requirements were not met during the soil-gas, BAT liquid, surface soil, and groundwater sampling task However, this deficiency will not affect the usability of the soil-gas or BAT liquid data, because these data are already classified as screening-level data

16. Comment

Section 3 1 2 2, Page 3-4, Third Paragraph and Table 3-5 This section discusses the results of the data validation These results are presented in Table 3-5 Discrepancies exist between the table and the discussion on page 3-4 For example, the percent results rejected (%R) of subsurface geologic material analyzed for radionuclides was calculated as 8%R This value is really 10%R Also, this section states that 72 percent of groundwater data were validated This value was recalculated to be 55 percent The values in this section should be calculated for accurate results, and the text and tables corrected to be consistent.

Response

Additional footnotes have been added to Table 3-5 to describe how the reported percentages were calculated The text on pages 3 and 4 accurately reflects the information reported on Table 3-5

17. Comment

Section 3 1 5 4, Pages 3-12, Third Paragraph The RPDs were not calculated for VOCs in subsurface geologic material duplicate sample pairs When assessing the data quality and usability, it is important to evaluate the precision of the data Without the RPD, an overall measurement of precision is impossible RPDs should be calculated and reported for analyses on all matrices

Response

Duplicate samples of subsurface geologic materials were not collected for VOC analysis because of the *in situ* nature of sampling for VOCs, therefore, there are no RPD results

18 **Comment**

Section 3 1 7 1, Page 3-23, Third Paragraph This section concludes that based on the frequency of detection and concentrations detected in equipment rinsates, the data are well represented However, Table J-9 presented analytes (for example, trichloroethylene [TCE]) that were detected in every equipment rinsate Therefore, the statement that the data are well represented based on the frequency of detection is unfounded This should be corrected to state that the frequency of detection and concentration of analyses in equipment rinsates may have affected the representativeness of soil gas samples

Response

The text has been revised to accurately reflect the results of equipment-rinsate analyses

19. **Comment**

Section 3 1 7 3, Page 3-23, Fifth Paragraph This section states that the metals detected in the equipment rinsates were "most likely" present in the distilled water (source water) used to rinse the equipment. The source water used for equipment rinsates should be analyzed and reported so that data support this statement.

Response

The text now states that no data are available to describe the distilled water used to prepare blanks A suggestion to obtain analyses of the distilled water has also been added (see Section 6)

20 **Comment**

Sections 3 1 7 3 through 3 1 7 7 These sections discuss the representativeness of the data Representativeness is analyzed with results from the equipment rinsates Inaccurate equipment rinsate data are presented For example, Section 3 1 7 4 states that 10 equipment rinsates were collected However, corresponding Table J-12 shows that many analytes are not represented 10 times All statements presented in the text should be supported by correct data in the tables

Response

The representativeness data are presented in Tables J-9 through J-15 The column entitled "Freq of Hits" refers to the number of detectable results per the total number of equipment rinses, field blanks, or trip blanks analyzed All analytes are represented, although they may not have been detected

21 **Comment**

Section 3 1 8, Page 3-30, Third Paragraph The second sentence states that analytical data for soil gas did not meet the target 90 percent completeness goal The third sentence claims that the soil gas analytical data exceeded the 100 percent completeness goal These are conflicting statements The percent completeness for soil gas needs to be reassessed and consistently reported

Response

Soil-gas samples collected at IHSS 114 using the BAT/CPT system did not meet the target completeness goal Soil-gas samples collected at IHSS 203 using the hydropunch system did meet the target completeness goal The text has been revised to clarify these points

22. **Comment**

Section 3 1 8, Page 3-31, Second Paragraph Section 3 1 8 discusses completeness, which is represented in Table 3-5 As previously stated in specific comment number 16, discrepancies exist throughout Table 3-5 Therefore, Section 3 1 8 needs to be reassessed after Table 3-5 is reevaluated

Response

Additional footnotes have been included with Table 3-5 to explain how the reported percentages were calculated The text in Section 3 1 8 has also been revised to clarify how the reported completeness percentages were calculated

23. **Comment**

Section 4 1, Page 4-1, Second Paragraph The text states that histograms and box-and-whisker plots for each analyte from each medium were generated for both site and background data Gilbert (1993) recommends that probability plots also be generated in order to determine the distribution of the data (that is, lognormal, normal, Weibull, or gamma) At a minimum, the text should describe how the distribution of the data was determined Knowing the distribution of the data helps to select the optimum statistical test

Response

Probability plots are not used to select the optimum statistical test within the Gilbert test methodology The test methodology is based on the concept of using a variety of statistical tests capable of detecting a wide range of possible contamination scenarios when used together Three of the tests (Gehan, Slippage, and Quantile) are nonparametric and therefore do not require any assumptions regarding data distribution The t-test is only used when data populations meet normality requirements (as determined by the Shapiro-Wilk test) Therefore, probability plots would not provide additional information required to perform these tests Since failure of any test makes a chemical a PCOC, the question of determining which test is optimal is irrelevant

24. Comment

Page 4-5, Second Paragraph The text states that the hot-measurement test will compare each measurement to a corresponding upper tolerance limit $(UTL)_{99/99}$ value The computed 99-percent UTL ($UTL_{99/99}$) is such that one is 99-percent confident the UTL is equal to or greater than the true 99th percentile of the population background measurements Gilbert (1993) recommends the use of $UTL_{95/95}$ value The results of using the $UTL_{99/99}$ is a large false negative error rate (that is, measurements from contaminated OUs would not be flagged) In other words, the use of $UTL_{99/99}$ increases the possibility of eliminating a chemical as a PCOC based on background comparison when it is actually above background This type of error should be minimized to the extent possible An explanation of why the $UTL_{99/99}$ rather than the $UTL_{95/95}$ was used and the potential outcome of using this criterion should be provided for the reader

Response

Gilbert (1993) does not recommend the use of the $UTL_{95/95}$ value On page 9, it explicitly states that while the $UTL_{95/95}$ is an acceptable candidate for the hot measurement value, it may result in a high probability of a site measurement exceeding the UTL value when the site and background populations are identical The discussion goes on to state that one way to reduce the number of false positive flags is to use a UTL that has a higher confidence on a larger percentile The $UTL_{99/99}$ is given as an example EG&G guidance on implementing the Gilbert test methodology has adopted this approach (EG&G 1994b)

It should also be noted that the hot measurement test is not a formal statistical test because false positive and power requirements cannot be specified

25 **Comment**

Page 4-24, Second Paragraph The text states that the activity of americium-241 in one surface water sample from location SW098 exceeded the $UTL_{99/99}$ value According to Table 4-20 it appears that uranium-235 and americium-238 also exceed their corresponding $UTL_{99/99}$ values The text should be corrected to be consistent with the table

Response

Americium-241, uranium-235, and uranium-238 activities exceeded the $UTL_{99/99}$ in samples from SW098 The text has been corrected to be consistent with Table 4-20

26. **Comment**

Page 4-25, Second Paragraph The texts states that Table 4-20 lists six VOCs and one semivolatile organic compound (SVOC) as PCOCs Table 4-20 presents four VOCs and two SVOCs as PCOCs The text should be corrected to be consistent with the table

Response

Four VOCs and one SVOC were detected in samples from SW099 The text has been corrected to be consistent with Table 4-21

27. **Comment**

Page 4-27, Third and Fourth Paragraphs These sections state that total VOC concentrations were estimated by summing the concentrations of the most frequently detected VOCs at OU7 This procedure is not typically performed in risk assessments and is not consistent with current Risk Assessment Guidance for Superfund (RAGS) EPA 1989 The text should describe how this information will be used in the risk assessment

Response

This information was not intended for use in a risk assessment It is meant to be used to evaluate the nature and extent of contamination

28. **Comment**

Page 4-35, Fifth Paragraph The text states that methylene chloride and acetone were detected in laboratory blanks RAGS states that common laboratory contaminants may not be eliminated from the COC selection process unless they are less than 10 times the contaminants in the blank samples The text should provide this information and these chemicals should not be eliminated unless they are less than 10 times the concentration in the laboratory blank

Response

The PCOC selection process is based on the test methodology stated in Gilbert (1993) and EG&G guidance for implementing the methodology These chemicals were not eliminated as PCOCs based on the analysis described in the comment. The PCOC selection process was used to describe the nature and extent of contamination at OU 7

29. **Comment**

Page 4-27, Paragraph 3 The use of "total" VOC concentrations to evaluate the nature and extent of VOC contamination is not appropriate The nature and extent should be evaluated for individual constituents or groups of similar compounds (such as chlorinated VOCs) The text should be modified to include this evaluation

Response

The nature and extent of contamination was evaluated using concentrations of chemical groups such as chlorinated hydrocarbons, BTEX, and SVOCs (See figures 4-31, 4-32, and 4-33) Individual VOC constituents were detected infrequently at any one location, and as a result, their spatial distribution could not be evaluated

30. **Comment**

Page 5-11, Paragraph 1 The text concludes that two sediment samples collected from the East Landfill Pond are sufficient to characterize the extent of contamination in East Landfill Pond sediment. This conclusion is based on a calculation using an equation present in Section 5 4 7 However, the variance used in this calculation was determined from the analysis of three samples In general, analytical results from three samples is not considered sufficient to provide an accurate estimate of variance Therefore, additional sampling of the East Landfill Pond sediments are necessary to determine the nature and extent of contamination in pond sediments The additional data would also be useful in assessing the fate and transport of contaminants entering the pond and in determining the remediation potential of the system (see general comment 7)

Response

It is agreed that analytical results from three samples are generally not considered sufficient to provide an accurate estimate of variance However, state LDRs do not trigger further action at the East Landfill Pond, therefore, the sediments will be covered by the landfill cap and no further sampling is required

31. Comment

Section 5 6 3, Page 5-22, Item 1 The first item of this paragraph lists types of data needed for landfill cap design, but does not address future landfill settlement An effort should be made to predict future settlement of the landfill Differential settlement will occur across the site based on the overall thickness and age of the waste, moisture content, and type of water The design of the landfill cap or post-closure maintenance of the cap will be affected by the overall settlement. Evolution of the settlement prior to design will provide a more realistic and functional cap design or post-closure maintenance program

Response

Although information on differential settlement is important for single-layer clay caps because the clay barrier is compromised with movement or desiccation, differential settlement is not as important for multiple-layer caps The use of synthetic materials in multiple-layer caps (e g , geogrid fabric) overcomes settlement problems In addition, most of the waste material at the Present Landfill is composed of construction debris (asphalt, concrete, wood, etc), and waste within the primary layer of the landfill is fairly old, therefore subsidence is not considered an issue

32. Comment

Section 5 6 3, Page 5-22, Item 2 The second item of this paragraph lists information needed for leachate control, but does not address migration of upgradient groundwater through or beneath the groundwater diversion system and into the landfill Further evaluation or discussion of the existing leachate control/groundwater diversion systems should be included to assess their impact on the volume and rate of leachate generated

Response

Existing landfill structures will be abandoned in place and replaced as one component of the presumptive remedy under the landfill closure IM/IRA. The landfill cap and slurry wall will prevent infiltration of water and formation of leachate in the future

33. Comment

Section 5.6 5, Page 5-25, Decision Route 4 Landfill gas control is typically necessary to ensure cap integrity and meet potential air emission applicable and relevant or appropriate requirements (ARARs) If gas treatment is not necessary based on ARARs, gas control should still be considered to ensure cap integrity and potential gas migration problems The text should be modified to address potential gas migration problems

Response

Gas control or gas collection and treatment is one component of the presumptive remedy under the landfill closure IM/IRA The text has been revised to clarify this issue

34. **Comment**

Section 6 4, Page 6-14 This section presents the methodology for collecting samples to determine the physical properties of this interim soil cover It is assumed that this determination will be used to evaluate the appropriateness of the interim soil cover as a final cover or as a structural base for the final cover The text should be modified to clearly support this assumption

The procedures state that the samples will be collected from the upper 2 inches of the cover This appears to be inadequate to evaluate the properties of the interim cover Samples that represent the entire profile of the interim soil cover would be more appropriate The stability or structural quality of the soil will also be based on the stability of the refuse The decomposition or consolidation potential of the refuse should also be determined to evaluate final cover options (see specific comment number 31)

Additionally, physical properties of the soil are being evaluated Therefore, procedures related to collection of samples for chemical analysis (such as equipment rinse blanks and decontamination) are not necessary and should be deleted from the discussion

Response

A determination of the load-bearing capability of the existing soil cover material is not necessary for the landfill cover design The field sampling has been revised accordingly

35. **Comment**

Page 6-4, Paragraph 4 This paragraph proposes eight additional monitoring wells to meet three objectives, one of which is to evaluate the effectiveness of the groundwater intercept system However, no action is proposed to close the gap in data for the north slurry wall The slurry wall should be accurately located relative to the well pair 6787/6887 If it is determined that the well pair straddles the slurry wall, it should be concluded that the slurry wall is ineffective and that the groundwater recharges the landfill along this boundary Water balance calculations, leachate volume calculations, and inputs to the Hydrologic Evaluation of Landfill Performance (HELP) model should be revised accordingly If it is determined that the well pair does not straddle the slurry wall, a monitoring well should be installed on the opposite side of the wall from the well pair at this location

Response

The data gaps regarding the effectiveness of the groundwater intercept system and the north slurry wall are irrelevant No additional monitoring wells are proposed As a result of the adoption of a presumptive remedy strategy for OU 7, the groundwater intercept system and slurry walls will be abandoned in place under the leachate control element of the presumptive remedy, and a new slurry wall will be constructed around the entire landfill under the footprint of the cover Therefore, there is no need to evaluate the effectiveness of the groundwater intercept system or the slurry walls

36. **Comment**

Page 6-12, Paragraph 1 The discussion on drawdown recovery testing states that the test will be started immediately after the last bailer of water is removed from the well The text should be more accurate if it is started the instant the bailer is lifted above the water level in the well

Response

The discussion of drawdown recovery testing follows Rocky Flats Standard Operating Procedures In addition, the initial response measures the properties of the filter pack not the properties of the surrounding formation (see Section 2 5 2 1, page 2-21)

37 **Comment**

Figure 6-3 The well pair that is to be drilled astride the north groundwater intercept system is not depicted on this figure showing proposed phase II monitoring well locations These wells should be added to the figure

Response

See response to Comment 35

38. **Comment**

Section 7-1, Page 7-1, Second Paragraph This paragraph discusses the list of field QC samples collected at OU7 Matrix spike (MS) and matrix spike duplicates (MSD) are not included in this list. MS/MSD samples are collected in the field at the time of sampling and are used to evaluate analytical precision and accuracy MS/MSD is a routine application and QC procedures for controlling the reliability and defensibly of data collected MS/MSDs should be included in the field QC program and discussed in this section

Response

There are only four proposed wells and they will be sampled only monthly for four months for the Phase II field investigation MS/MSD samples will be collected as part of the groundwater sampling program at these wells

39. **Comment**

Section 7-1, Page 7-1, Sixth Paragraph This paragraph states that trip blanks will accompany each shipment of water samples for VOC analysis Trip blanks are used to assess sources of contamination and cross contamination and their impact on data quality Trip blanks should accompany all materials that receive VOC analysis, including water samples The sampling program and the text should be modified to include trip blanks with all VOC samples collected

Response

The only samples proposed for collection under Phase II that will be analyzed for VOCs are groundwater samples The text has been modified to state that trip blanks will accompany each shipment of samples for VOC analysis

40 **Comment**

Section 7 2, Page 7-2, Second Paragraph This paragraph states that QC procedures for non-CLP methods will be developed as needed QC procedures should be addressed prior to sampling and analysis All analytical methods and QC procedures should be discussed in the revised work plan

Response

All samples will undergo CLP Level IV analyses

41. **Comment**

Section 7 3 2, Page 7-3, Second Paragraph This section states the accuracy is expressed as a %R of a spike Accuracy is not only the assessment of the %R, but also evaluation of field and trip blanks. Accuracy measures the bias of the sampling and analytical procedures and all appropriate QC samples should be evaluated and described in the revised work plan

Response

Equipment and trip blanks were evaluated and are described in Section 7 3 3, Representativeness These samples provide information to evaluate cross-contamination or contamination during transport of environmental samples but do not provide a measure of sampling or analytical bias

4 0 Conclusion

The OU7 Revised Work Plan has three significant problems (1) the site hydrogeology is poorly characterized, (2) the analysis of data quality and usability is incomplete and deviates frequently from standard practices, and (3) it is not clear from the text how the presumptive remedy will be implemented and whether enough data will be collected to assure efficient operation and maintenance of the closed landfill

Most of the problems with this hydrogeologic characterization can be attributed to uncertainty in the location of landfill structure Broad assumptions regarding the effectiveness of the groundwater diversion/leachate control systems and slurry walls are incorporated into the water balance and the calculations of leachate volume, and ultimately will be incorporated into the modeling of leachate flow rate In addition, poor application of basic hydrogeologic principles is evident in the calculation of hydraulic gradients The presentation of the water balance is unfocused and confusing and does not appear to be linked to a site conceptual model

The data quality analysis often deviates from established practices or is inconsistently applied to different analyte groups A more thorough data quality analysis should be performed, other sections of the report may then have to be revised, depending on the results of the analysis

The presumptive remedy is not presented in sufficient detail to ascertain whether significant issues in the operation and maintenance of the presumptive remedy, such as landfill settlement and gas control to ensure cap integrity, will be addressed Furthermore, it is never explicitly stated whether the existing landfill structures (groundwater collection/leachate control systems and slurry walls) are to be incorporated into the design and whether they will require any upgrading Finally, the remediation of the East Landfill Pond should be discussed in more detail, particularly regarding how leachate control will be handled if the pond is significantly altered during remediation

Response

1 The existing landfill structures will be replaced under the presumptive remedy Therefore, discussion about the effectiveness of the structures is irrelevant. Basic hydrogeologic principles were used to calculate hydraulic gradients The methodology has been clarified

in the text. The presentation of water balance has been revised and linked to the site hydrologic model

2 Standard practices were followed in the analysis of data quality and usability Inconsistencies or discrepancies between text, tables, and conclusions drawn have been corrected

3 A detailed discussion of the presumptive remedy has been included in Section 1 as requested Data gaps for remedial design have been identified in Section 5 Proposed field activities to alleviate data gaps are presented in Section 6

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